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ABSTRACT

This study reviews existing evidence related to the question of whether or not to increase federal support for preschool services in general, and center facilities, in particular. The findings do not indicate a current or impending overall shortage of early childhood services or that low-income families suffer inequities in the costs or distribution of care. Further, no evidence was found of long-term child benefits that would justify a large, immediate increase in federal expenditures for custodial or educational services for preschool children. Five policy conclusions are drawn: (1) proposals for increased federal support of day care do not reflect any clear and present national need; (2) adjustments should be made in the present system which would provide the same profile of incentives for families at all income levels, respond to individual choices in the style and setting of day care services, and reflect realistic assessment of the value of currently demonstrated child benefits from preschool experiences; (3) studies of the mechanics of day care choices should be undertaken; (4) heavy emphasis on the development of new early childhood education models should be discontinued; and (5) research funds should be redirected to encourage the replication of successful early childhood education models in secondary sites. (JMB)

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FEDERAL POLICY FOR PRESCHOOL SERVICES: ASSUMPTIONS AND EVIDENCE

2.75

Research Memorandum
EPRC 2158-24

Prepared for:

OFFICE OF THE
ASSISTANT SECRETARY FOR EDUCATION
DEPARTMENT OF HEALTH, EDUCATION
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STANFORD RESEARCH INSTITUTE
Menlo Park, California 94025 · U.S.A.

SRI Project 2158

May 1975

Educational Policy Research Center

MEREDITH A. LARSON

Research Memorandum

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EXECUTIVE SUMMARY

Since the mid-1960s, the federal government has made substantial and increasing investments in the area of preschool services. In addition, recent initiatives (such as H.R. 1 of 1972,* H.R. 15882 of 1974, S. 626, H.R. 2966 of 1975,† and P.L. 93644‡) have proposed major increases in the level of federal involvement. The form of services that has most benefited from federal involvement is center care for children under age six, and most of the recent proposals similarly favor the development of professionally run center projects over the expansion of other forms of day-care service, such as at-home care or family-group care.

The wisdom of increased federal support for preschool services in general and center facilities in particular rests on the validity of a small number of basic assumptions. Our task in this study was to review existing evidence regarding the validity of the three central assumptions listed below. Each statement is followed by our conclusions.

The first assumption under examination holds that there is an overall shortage of day care for preschool children and a shortage of preferred forms of service (especially center care) that will not be corrected through normal market mechanisms. Our review led us to the following conclusions:

(1) The current national supply of day care for preschool children is approximately adequate to current demand, although disparities may exist at the local level, and the delivery system may operate poorly.

---

*H.R. 1 dealt with day-care deductions and welfare eligibility.

†Child and Family Services Bill.

‡Head Start-Follow Through Act.

(2) Most families in all income groups choose to have preschool children cared for in their own homes by relatives or friends, or in family-group care provided by relatives or neighbors.

(3) Both new entrants to and long-term participants in the job market appear to be able to provide adequate care for preschool children.

(4) Contrary to expectations, the supply of at-home care has expanded in response to an expanding women's labor force.

(5) No significant economic barriers to market entry exist except those imposed by effective demand. Local regulations, lack of information, and conflict among funding agencies may hamper local market adjustment, however.

(6) The existing market in custodial services for preschool children appears generally able to meet effective demand during the next decade without substantial federal intervention.

(7) The biggest problem for individual families may be the considerable time and effort involved in locating care, rather than the availability, cost, or quality of the care.

The second assumption under examination holds that the present day-care market is inequitable for low-income families, who cannot exert their preferences because of the cost and limited supply of certain types of care (especially center care). Our review led us to the following conclusions:

(8) Most low-income or minority families make approximately the same choices about day care as do middle- and high-income families. They choose to have preschool children cared for in their own homes by friends or relatives, or in conveniently located family-group-care situations provided by relatives or neighbors.

(9) The supply of at-home care has expanded in response to an expanding women's labor force among low-income families.

(10) The increased utilization of at-home care may actually represent a comparatively "expensive" though economically rational choice for low-income parents because of the loss of income of the family member who provides unpaid child care. This may imply that at-home care is a much desired choice for these families.

(11) Because of the size and form of current federal subsidies, the market structure for child services may create far more compelling incentives for low-income families to use center care than for middle-income families to use center care. This may be a principal reason why use of center care by low-income families is higher than use by high-income families.

(12) About 15 to 20 percent of low-income families now use or would like to use center care. There is some evidence to suggest that this percentage would not be substantially increased by providing additional information or assistance in locating available center care.

(13) The existing national supply of center care appears adequate to meet current demand by low-income families, although there may be some local disparities.

The third assumption under examination holds that providing better preschool experiences, particularly in the form of early-childhood education programs, is indispensable to ensuring children from low-income families against later school failure. A number of major studies of program evaluations, e.g., those by Stearns, White et al., and Bronfenbrenner, uniformly indicate the following:

(14) Most preschool educational projects have little or no independent effect on the cognitive abilities or subsequent school progress of participating children.

(15) Some highly structured preschool education projects have had a beneficial short-term effect on the skills or abilities, or both, of disadvantaged preschool children.

(16) Some parent-training intervention projects have had a beneficial short-term effect on the abilities of infants and toddlers and on the immediate quality of their lives.

(17) Projects that have demonstrated high short-term effects are unreliable when generalized into models for broad-scale programs.

(18) No known, broadly implemented, treatment or preschool experience can ensure children from low-income families against later school failure or have a lasting effect on the cognitive abilities or skills of these children independent of later interventions.

To summarize our findings: We find no evidence of a current or impending overall shortage of early childhood services, particularly of center care; low-income families do not appear to suffer inequities in the costs or distribution of care in general and center care in particular; and we find no evidence of long-term child benefits that would justify a large, immediate increase in federal expenditures for custodial or educational services for preschool children. On this basis we draw the following policy conclusions:

> Conclusion 1: Present proposals for massive increases in the present system of federal support and incentives for day-care centers do not reflect any clear and present national need.

We do not intend to imply that the current system of day-care services for children is entirely satisfactory. Indeed, there are obviously a number of problems in this system, some of which may be quite serious. For example, the most pressing problem for individual families may be the lack of thorough and realistic information at the local level of both formal and informal facilities. This and other problems are unlikely to be solved, however, by simply raising the level of national expenditures while retaining the present structure of support and incentives.

Our examination of the evidence leaves us with the impression that the current set of federal subsidies for preschool services creates a hodgepodge of incentives that vary by income level and type of care utilized, and are not obviously in the public interest as measured by either parental desires or child benefits.

> Conclusion 2: Adjustments should be made in the present system of federal subsidies and incentives for preschool services so that the resultant system would be more able to:
>
> - Provide the same profile of incentives for families of all income levels.

- Respond to individual family choice in the style and setting of day-care services.
- Reflect a realistic assessment of the value of currently demonstrated child benefits from preschool experiences.

The present methodological approach to estimating demand for day care has had two significant weaknesses that have severely hampered this and all other attempts to consider sensible policy alternatives. The first weakness is that studies generally consider only a single point on a demand curve, i.e., demand is estimated by assuming specific income and price level. To estimate demand more effectively, it is necessary to consider the responses of individuals to alternative price schedules. An analysis of the determinants of demand for day care should apply the technology of econometrics to a carefully constructed behavioral model of demand for day-care services. The second weakness is that studies of "preference" and "satisfaction" have made no attempt to focus on the specific attributes of a particular type of care that make it the preferred type of care. Until this level of analysis is performed, it will be extremely difficult to design attractive, cost-effective, and distinct options for child care buyers.

Conclusion 3: Specific, limited studies of the mechanics of family choices of day-care options could be very useful to the policy process if undertaken immediately, completed promptly, and focused on the issues discussed above.

Although the evidence suggests that there is little to be gained in the short run from expanded research budgets, this does not necessarily mean that the present level of research expenditures should be decreased. Instead, some refocusing of effort and expenditure is necessary.

Conclusion 4: Continued heavy emphasis on the development of new early-childhood education models seems unwise. Over the

next two to five years it is most unlikely that any model of early-childhood education will be developed that will be substantially more effective than those developed to date.

Conclusion 5: Some existing early-childhood education projects do appear to provide desirable secondary benefits to children and their parents, but these projects have been difficult to replicate. Some redirection of research funds is warranted to resolve the problems of replicating the best existing models of early childhood services in secondary sites.

The federal government can have an important role in creating an adequate and flexible system of preschool services. At best such a system could provide a realistic combination of parent benefits and child benefits at a sensible cost and give maximum flexibility to each family to choose the style and setting it prefers. Some adjustments to the present system of day-care services will be needed to meet these goals. Our study suggests, for instance, that the present system of center-care emphasis may not provide equitable support for the very large number of families who prefer at-home care, or for the promotion of family-group care for all income groups.

Adjustments to meet these needs might come through a revision in the present income tax law that would allow deductions for day-care payments to relatives, or through changes in the present policies for day-care payments during and after job training, or in a number of other ways. Our analysis of the data indicates, however, that the present system is generally adequate and usually equitable, and that there is no point to increasing federal funding or control, if the present structure is maintained.

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ACKNOWLEDGMENTS

In this study we did not attempt to generate any new data bases or to report on any new project evaluations. We wanted instead to bring existing analyses and data to bear on the immediate policy problems of early-childhood services. We used a wide variety of sources in this study, but we owe special thanks to a few individuals on whose work we particularly relied. The published analyses by Vivian Lewis and Richard Shortlidge on the subject of supply and demand for child care were enormously helpful, as was the work of Eliot Levinson. An equal debt is owed to Sheldon White and to Uri Bronfenbrenner for their outstanding reviews of early-childhood education programs.

Finally, we are indebted to Steven Kutner for his careful critique of the manuscript, and for the simulations of child-care costs under alternative subsidies which appear in Appendix B.

I INTRODUCTION

The federal government is under substantial pressure to increase both the size and the range of its investment in preschool services and particularly the federal support of center day-care and education programs. This pressure comes from many sources; women's rights, the welfare/workfare dispute, compensatory education programs, and mounting teacher unemployment all contribute heavily to the plethora of issues regarding preschool intervention and to the tension that characterizes policy formation.

Because the policies on preschool intervention are of major concern to so many diverse and important groups, it is not surprising that the variety of pro and con positions on various policies are based on extremely different sets of assumptions. Thus, the participants in the preschool services debate usually appear to be talking past or through each other, and converts are rarely made from either side. This situation is not unusual in political debates and usually results in some kind of negotiated compromise. In the particular case of preschool services, however, such compromise is made far more difficult because the debates, largely based upon beliefs that certain policies (inputs or arrangements) should result in some particular valued result, center on whether the present situation is good (right) or bad (wrong).

All too frequently, therefore, these debates exclude any careful examination of what outcomes actually result and what the present situation actually is; little attention is directed to whether the empirical evidence available supports assertions about what the outcomes of proposed policies will be. In fact, many policy debates proceed as if there

were no such evidence. This is not the case, however. Much information about preschool services does exist in forms such as usage surveys, program evaluations, and cost projections. As always, some of the information desired is simply unavailable, and some is ambiguous, outdated, or contradictory. Nevertheless, there are several quite reliable sources that can help us to examine the trends of economic and educational behavior in a way that is useful for policy formation.

This report assembles and analyzes the evidence bearing on the following three basic assertions that are implicitly or explicitly either supported or denied in discussions about preschool services:

(1) There is an overall shortage of day care, and a shortage of preferred forms of day care (especially center care), which will not be corrected through normal market mechanisms.

(2) The present day-care market is inequitable for low-income families, who cannot exert their preferences for day care because of the cost or the limited supply of certain types of care.

(3) Providing better preschool experiences, particularly in the form of early-childhood education programs, is indispensable to ensuring children from low-income families against later school failure.

The evidence is sometimes piecemeal, but we believe the pieces can be assembled into a fairly consistent and reliable picture that can be used in assessing appropriate federal roles.

Section II presents information on current day-care and education programs and their relative cost and utilization, and on the classification system we have chosen to use. Included too is a brief description of the size and nature of present federal involvement.

Sections III and IV present a detailed examination of evidence bearing on the three basic assertions outlined above. Section III addresses the question of whether a shortage of day-care services exists

for the general population or for the low-income population. Section IV considers evidence relative to long-term social and educational benefits. Section V summarizes our conclusions and presents general recommendations for federal policy.

II WHO, WHERE, AND HOW MUCH?

Size of Federal and National Investments

The extent of federal involvement in preschool services is not easy to determine. Because of the lack of standard definitions (and conflicting political purposes), official counts of federal preschool programs vary from as few as 65 to as many as 213. Some lists include only direct subsidies, such as Aid to Families with Dependent Children (AFDC), direct payments for children, or the Head Start program. Other lists include special monies made available for the support of local projects through programs like Model Cities or Revenue Sharing. Still other lists include other kinds of support, such as milk subsidies administered by the Department of Agriculture, preferential depreciation allowances, or credit for day-care facilities in the Small Business Administration. These varying lists cause estimates of annual federal dollar investments to swing between $500 million and $3 billion.

A few examples illustrating this confusion can be found in estimates of expenditures for FY 1970. The Brookings Institution calculated federal expenditures for child care and education in FY 1970 at $520 million (see Table 1).* At first glance, this figure seems to match estimates by the U.S. Senate Committee on Finance, which also calculated expenditures in FY 1970 at $520 million (see Table 2). The discrepancy of $6 million between the two listings of the Head Start budgets (compare Tables 1 and 2), however, demonstrates the difficulties of agreeing on the interpretation of even discrete budget items. The $6 million

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*A list of references and a bibliography are appended to this report.

Table 1

FEDERAL SPENDING FOR DAY CARE AND OTHER EARLY-CHILDHOOD EDUCATION PROGRAMS: FY 1970

Program	Millions of Dollars
Day care	$164
Head Start	330
Preschool programs under Elementary and Secondary Education ACT (ESEA), Title 1	26
Total	$520

Source: Rivlin, "Child Care," p. 253.

Table 2

FEDERAL ASSISTANCE FOR DAY CARE AND EARLY-CHILDHOOD EDUCATION PROGRAMS: FY 1970

Source	Millions of Dollars
Social Security Act	$170
Head Start	324
Income tax	26*
Total	$520

*Using 1966 income tax data.

Source: U.S. Senate Committee on Finance, 92nd Congress, 1st Session, Child Care Data and Materials, June 16, 1971, pp. 6-10.

difference between the day-care entry (Table 1) and the Social Security Act entry (Table 2) is more elusive, since it is less clear what both categories include and exclude. The real problem, however, is that the Senate Committee on Finance (Table 2) notes the substantial income tax support but ignores expenditures under ESEA Title 1, while Rivlin (Table 1) does the reverse. Thus, if all four items are totaled, federal expenditures and support reach at least $552 million.

The problem is a Pandora's box. For instance, based on data in the Congressional Record, another independent estimate of ESEA Title 1 expenditures on preschool and kindergarten programs sets this figure at $58 million in 1969.[1] By amending this ESEA estimate to a compromise $40 million and detailing a few additional programs with obvious early-childhood interests within HEW, we can produce an estimate of $608 million for total federal spending (see Table 3). Clearly, inventories could include loan guarantees, the underwriting of personnel training, employment of elderly persons, food subsidies, materials research, and other such programs, and could be adjusted, for example, for income tax deduction regulations,* state incentive grants, and more recent budget years. These inventories could easily double or triple the dollar estimates.

The distortions caused by lack of information and lack of definition are severe, and the point is probably not worth belaboring further. An important conclusion, however, is that almost all estimates of federal spending tend to underestimate rather seriously the supply and support of services, and therefore may overestimate the need for increased new resources.

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*The IRS has not published figures on the amount of the revised deduction, but sources within the agency report deductions in 1973 for approximately $1.5 billion of care--a federal subsidy of about $300 million.

Table 3

ESTIMATED FEDERAL SUPPORT FOR DAY CARE
AND EARLY-CHILDHOOD EDUCATION PROGRAMS: FY 1970
(Millions of Dollars)

Program	Program Support	Total Support
Day care		
Social Security		
AFDC, direct payment	$ 96	
Income disregard	50	
WIN	18	
Head Start	36	
CEB	8*	
Migrants day care	1.2	
Model Cities	10	
Subtotal	$219.2	
Federal subsidy through income tax deductions	20	
Total day care		$239.2
Education		
Head Start (including Home Start)	$300	
PCDC	1.6	
Sesame Street	3.5	
Research support	10	
ESEA	40	
PCC	5	
Handicapped	5	
Indian	4.1	
Total education		$369.2
Total		$608.4

*$6.374 million--1971 estimate.

Sources: Rosenberg, "Early Childhood Education," pp. A3-A24; Congressional Record (9 February 1970); U.S. Senate Committee on Finance, 92nd Congress, 1st Session, Child Care Data and Materials, June 16, 1971, pp. 9 and 22; Social Security Amendments, 1971.

Even though it is difficult to assess the precise amount spent on preschool programs in any one year, it is obvious that federal spending on these programs has substantially increased. Between 1970 and 1973, the figures published by the Brookings Institution show an increase of $449 million, up approximately 90 percent (see Table 4).

Table 4

FEDERAL SPENDING FOR DAY CARE AND OTHER EARLY-CHILDHOOD EDUCATION PROGRAMS, FISCAL YEARS 1970-1973
(Millions of Dollars)

Program	1970	1971	1972 Estimate	1973 Estimate
Day care	$164	$233	$404	$507
Head Start	330	363	364	369
Preschool programs under Elementary and Secondary Education Act, Title 1	26	92	98	93
Total	$520	$688	$866	$969

Sources: Day care, 1970: Child Care Data and Materials, June 16, 1971, Senate Committee on Finance, 92 Cong. 1 sess., p. 32; other 1970 data: Special Analyses, Budget of the United States Government, Fiscal Year 1972, pp. 120-121; other data: Special Analyses of the United States Government, Fiscal Year 1973, pp. 123, 144.

Table 5 details federal child-care expenditures for fiscal years 1974 and 1975. As the totals indicate, expenditures in these categories are rapidly approaching the $1.5 billion mark. Thus, although some of the proposed increases in federal expenditures for preschool programs have

Table 5

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE ESTIMATE OF NATIONAL CHILD-CARE FUNDING
Fiscal Years 1974-1975

Federal Child-Care Expenditures

Agency program	Estimated Federal Obligations (millions)		Child Care Years		Federal Cost per Child	
	FY 1974	FY 1975	FY 1974	FY 1975	FY 1974	FY 1975
Department of Agriculture						
Nonschool food service program						
(a) Head Start	$ 13.3	$ 25.0	--	--	--	--
(b) Other year round	30.0	34.0	--	--	--	--
USDA total	43.3	59.0	278,000	559,000	156	106
Appalachian Regional Commission:						
Child development program	12.3	12.3	145,000	145,000	85	85
Department of Health, Education, and Welfare						
Aid to families with dependent children:						
IV-A-Social services						
Employment related	325.0	341.3	368,063	386,466	883	883
Nonemployment related	139.3	146.3	157,758	165,685	883	883
IV-A-Special needs	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
IV-A-Income disregard	85.0	89.3	200,000	210,000	425	425
IV-A-Work incentive	45.0	47.3	75,350	79,118	597	598
IV-B-Child Welfare	1.8	1.8	19,000	19,000	95	95
Head Start	392.1	430.0	379,000	379,000	1,034	1,135
Office of Education	48.9	51.3	138,909	145,854	352	352
HEW total	1,037.1	1,107.3	1,338,080	1,385,123	775	799
Department of Housing and Urban Development						
Indoor community facilities program	--	--	--	--	--	--
Model Cities	14.2	6.7	28,400	13,400	500	500
Neighborhood facilities	n.a.	--	n.a.	--	n.a.	--
Tenant services grant program	n.a.	--	n.a.	--	n.a.	--
HUD total	14.2	6.7	28,400	13,400	500	500
Department of Interior						
Indian child welfare assistance	5.4	6.5	3,600	3,600	1,500	1,806
Kindergarten program for Indian children in federal schools	2.0	2.0	4,300	4,300	465	465
Parent-child development program (preschool)	0.6	0.6	200	200	3,000	3,000
Johnson O'Malley--Program of aid for public schools (kindergarten for reservation Indian children)	2.2	2.2	n.a.	n.a.	n.a.	n.a.
DOI total	10.2	11.3	8,100	8,100	1,259	1,395
Department of Labor						
Concentrated employment program (CEP)	10.0	10.0	n.a.	n.a.	n.a.	n.a.
Out-of-school work support	5.0	6.0	n.a.	n.a.	n.a.	n.a.
Migrants	1.3	1.6	n.a.	n.a.	n.a.	n.a.
Public Service Careers (PSC)	--	--	--	--	--	--
DOL total	16.3	17.6	n.a.	n.a.	n.a.	n.a.
Office of Economic Opportunity						
Assistance for migrants and seasonal farmworkers (EOA III-B)	--	--	--	--	--	--
Community action program (225 local initiative funds)	2.4	2.4	n.a.	n.a.	n.a.	n.a.
Small Business Administration	3.8	n.a.	n.a.	n.a.	n.a.	n.a.
Department of the Treasury: Internal Revenue Service, child-care deductions	208.6	208.6	n.a.	n.a.	n.a.	n.a.
Total federal child-care expenditures	1,346.2	1,425.2	1,797,580	2,110,623	1,117	1,039

Source: Department of Health, Education, and Welfare.

been rejected by Congress or the President, there has been a major, if not massive, increase in federal financial investment in such programs.

Deciding on Definitions: Parent Benefit/Child Benefit

Obviously there is great overlap in the target groups of federal programs for preschool services, as well as in delivery systems, program administration, and services generated. One reason for the overlap is that these programs are all aimed at the same age population, and most are directed as well toward a specific population of low-income families. Another reason is that custodial, health, and educational services are provided in many of the same settings and frequently simultaneously. Thus, behavioral definitions of day care, health services, and education for preschool children are extremely difficult to develop and apply. It is often particularly difficult to distinguish day care for very young children from education, but some sort of definitional distinction is crucial to a consideration of policy options.

The distinction most frequently made in federal calculations is that between custodial care and developmental care. Unfortunately, this distinction tends to attach values to the names themselves rather than to the real projects; "developmental" suggests sunny nursery schools and benevolent pediatricians while "custodial" suggests drab homes, orphanages, and prisons. Developmental care is also assumed to be far more expensive precisely because it is "better." In fact, developmental day-care programs are more expensive because costs are almost solely proportional to two factors: child/staff ratio and educational level (and thus wage rate) of the staff. There is an intrinsic circularity in this categorization: Developmental care, defined as those projects having low child/staff ratios and high levels of staff training, is expensive; expensive care is therefore developmental.

Operationally, however, it is extremely difficult to classify the type of care (custodial or developmental) being delivered in any specific project, except by asking the project director. In theory it would be helpful to base program classification on program attributes (e.g., educational, medical, and social). Such a classification would undoubtedly provide a helpful basis for policy analysis, and in addition would correspond more closely to the way in which individual families choose from among available options. This classification scheme would depend, however, on the existence of clearly defined, recognizable, and accepted behavioral indices of the program attributes, and on the broad use of classroom-observation techniques. These conditions cannot be met at present, and intuitive classification of program attributes is not a sound substitute. In addition, the custodial and developmental care cannot be classified consistently on the basis of any output measures, either cognitive or noncognitive. Thus, although the present categorization is a convenient way to identify ideologies and justify costs, it is of greater value for debate than for analysis.

A more useful definition for policymaking is to identify who receives the primary benefit and distinguish this group from those who receive secondary or partial benefits, i.e., parent benefits versus child benefits.

In principle, day care programs provide custody and protection for children while parents are employed; in the absence of such day care, most of these parents would be unable to maintain full-time or part-time employment.* Thus, day-care programs provide employed or in-training

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*In the discussion that follows, we classify as "day care" those instances when children of working mothers participate in full-day Head Start projects, but classify as "educational" those instances in which children of unemployed mothers participate in the same Head Start projects.

parents of cared-for children with the primary benefits, and the children of these parents with the secondary benefits (educational, medical, and social). Therefore, day care is classified as parent benefit.

On the other hand, educational programs provide no primary benefits to parents. Instead, they are aimed at improving the cognitive development and skills of children, or at improving their present or future abilities in certain intellectual or social areas. Thus, educational programs benefit the child almost exclusively and are classified as child benefit. More generally, any care given to a child whose parents are not working (or in training, or actively looking for work) is considered a child benefit.

Health services are comparatively easy to distinguish from day-care or educational services (though either of the latter may contribute secondarily to improvement of health or nutrition). Such services are directed toward improving the child's immediate or long-term health and nutrition. For several reasons, this report touches only briefly on some aspects of health services for children. One reason is that many health-care settings, such as clinics, are specific to health service and do not overlap with other day-care services. More to the point, however, is that answers to our immediate questions do not directly depend on the presence or absence of special health services.

A Spectrum of Day-Care and Education Options

The provision of day-care or educational services, or both, may be made in a variety of ways and can be classified according to any number of schemes.[a] For our purposes, it is convenient to focus on the setting in which the service is provided. This criterion is particularly helpful for two reasons. First, it reduces the problem of circularity inherent in classifications that depend on staff definitions. Although settings

do tend to have distinctive staff and pupil characteristics, they are not intrinsically defined by these characteristics. Second, concentrating on settings seems to correspond closely to the way families actually make decisions, i.e., the location, cost, and size of the facility appear to matter more to parents than program content or ideology. (This is discussed in Section III.) A convenient way to envision the optional settings is to arrange them on a spectrum of complexity, as shown in Figure 1.

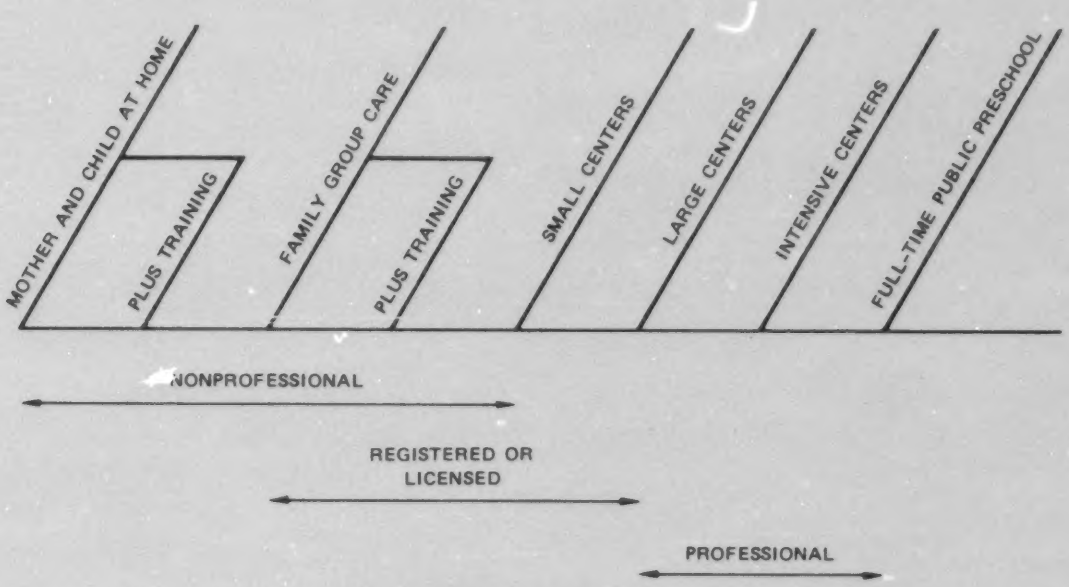

FIGURE 1 OPTIONAL SETTINGS FOR PRESCHOOL SERVICES BY COMPLEXITY AND STAFF TYPE

The simplest arrangement is that of a mother and child (or children) in their own home. When the mother, or sole parent, is employed, the next simplest arrangement is that of using a relative or housekeeper to care for the child in his own home. For the purposes of upgrading health, cognitive development, or child protection, some form of training may be given to the mother or other care-giver.

Another arrangement is to have the child cared for in a home not his own. Usually such care is provided by another mother who cares for her own and neighborhood children in her home (often called family-group care). Such home-care centers may or may not be registered through a local agency; the care-giver is ordinarily not a certified professional or a trained paraprofessional. Again, some training may be given to the care-giver to upgrade the quality of health, cognitive development, or child protection that the visiting child receives, but the care remains essentially nonprofessional.

Next in order of complexity are small child-care centers providing for as many as perhaps 20 children. Although a few such centers operate in private homes (where several rooms have been set aside), most are set in separate facilities. They are usually sponsored by community organizations or are tangential services of churches, universities, or fraternal organizations. Ordinarily the sponsor provides some subsidy, often in the form of rent-free facilities. In general, there is more than one care-giver, at least one of whom is a certified professional or paraprofessional.

As the enrollment increases in these small child-care centers, so does the tendency to use professional certified personnel, such as nurses or teachers. The largest centers may care for up to 200 children, using diversified professional staffs. Centers enrolling 50 or more children are ordinarily under government sponsorship at local, state, or federal levels. Any program receiving federal subsidies must satisfy staffing and child/staff ratio requirements for type of care and age of child.[3]

In a few instances, day care may be provided through all-day, formal, preschool programs operating either privately or, more commonly, through

some special state program of the public schools. Ordinarily in such programs only certified personnel are used.

Payments for Day Care

As may be expected, costs of day care vary as widely as do the settings and the types of care. Some of the reasons have been discussed above. Arranging the day-care and education options detailed above according to size of payments made would result in a partial reordering of the original spectrum. Figure 2 shows this reordering, along with general estimates of yearly payment by type of care.

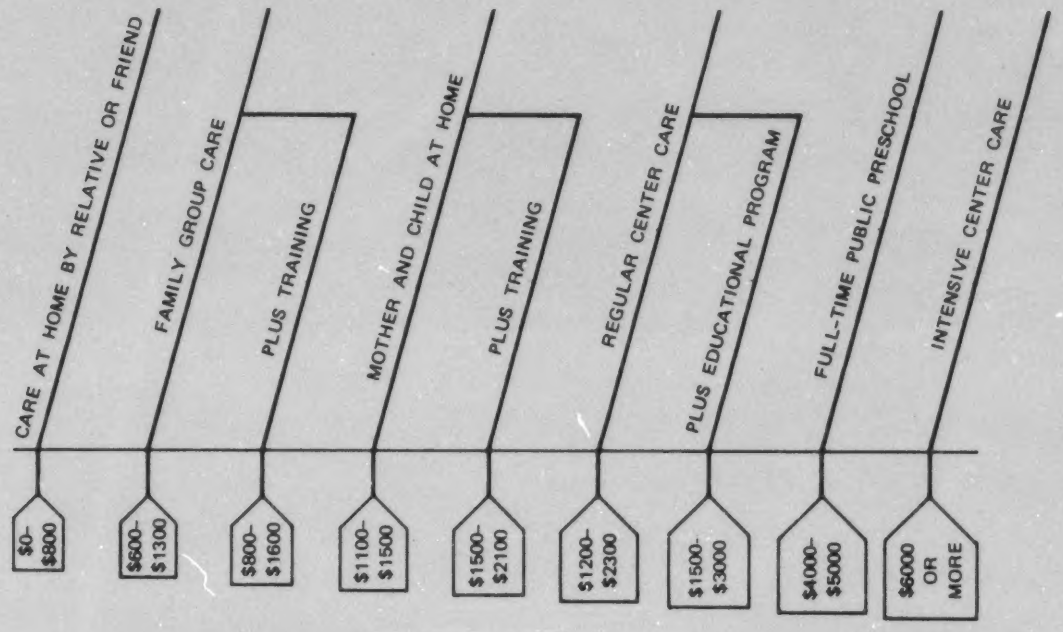

FIGURE 2 PRICE TAGS FOR PRESCHOOL SERVICES IN OPTIONAL SETTINGS

The smallest payment, of course, is for day care that is bartered with a neighbor or provided by another family member (the father or an

older sibling). For practical purposes, such care may be considered payment free.* Significantly, no payment was made for 75 percent of the children of working women in 1965 because most of these mothers selected the at-home option.[4]

When day care is a paid service in the form of family-group care, annual costs may range from about $600 to about $1,300 per child, depending on such factors as location, provision of meals, and sick-child care, and whether the facilities are licensed or "underground." Providing minimal training for family-group care-givers, as well as some backup resource service, seems to add another $200 to $300 to annual costs.†

It can certainly be argued that if the first option (bartered child care) is considered payment free, then day care by the mother in her own home should similarly be classified as payment free. Under certain circumstances, however, the federal government will pay a parent to remain at home to provide full-time care for dependent children. Although AFDC base lines vary somewhat, the figure of $1,100 annually (Figure 2) is an estimate obtained by dividing a typical AFDC family per annum payment by 2.6 children per family.

Using estimates from Home Start, Parent-Child Centers, and private projects, we estimate that the annual cost of programs training individual mothers in more effective health, nutrition, and child-rearing practices

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*In many families, siblings or other relatives receive minimum reimbursement for providing at-home care for preschool children. Lack of evidence on the frequency or scale of such payments is a serious obstacle to understanding the real pattern of day care in America. We have calculated cost for such care at $1,000 a year per family. Such payments are essentially intrafamilial income transfers. This may be a very real cost, however, since without cooperation, gained through payment of a relative, the mother would not be able to maintain outside employment.

†Betty Williamson, Director, Neighborhood Day Care Program, San Jose, California (personal communication).

may total between $400 and $1,000 per child* in payments to training staff and sometimes to mothers, in addition to any payment for keeping the mother at home.

Care at home by a relative or housekeeper presents a far more complicated payment problem. It appears that government agencies generally pay between $250 and $800 per child per year for this type of at-home care, with an average annual payment of $417 in 1972.† This seems to indicate the same general range of payments as that reported by the Westinghouse-Westat survey, which estimated payments for these types of services at or under $360 per year, for families with annual incomes of $8,000.[5]

Reimbursement to nonrelatives seems to fall in this same general payment range. Data from Low and Spindler indicate that most care at home by nonrelatives is also provided without payment, but that when payment is made, it is generally about $500 a year.

There is some difficulty in comparing payments for at-home care with the payments for services in other settings, however, since at-home payments may not represent full-time care (which would amount to 25¢ per hour), but rather arrangements made for part-time care.

When child care is provided in separate centers, payments rise considerably. The most widely quoted estimate of what center care should

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*This may be as much as $2,500 per family, according to the staff members of Home Start and Parent-Child Centers (personal communications).

†"... in New York or Washington, a maximum of $250 in total is paid per child per year to the care giver who is presumably but not necessarily a relative .... The children of trainees [in other instances] were looked after at an average cost of ... $10-$12 per week by private sitters ($520-$624 per child-year) ... In practice, federal expenditures for day care in 1972 worked out to only $417 per child" (Lewis, pp. 124-126).

cost was made in 1967 by Sugarman and Feldman, who placed center-care annual costs (i.e., payments for staff and facilities) at $1,200-2,300 per child.[6] Again, a certain amount of circularity is at work here. Since center care should cost $1,200-2,300, this is what many government agencies will pay and is, therefore, what most agencies do pay. However, expenditures by federal agencies appear to vary, depending on agency, purpose, and program design.

When center care is subsidized by a church or a community agency, payments may be reduced to about $1,500-1,800 per year because facilities and some personnel costs are often charged to some other organizational function. This does not, of course, change real costs, which remain somewhat above $2,000. Payments are also reduced at "cooperative" centers in which parents work part time at the center providing care, thus reducing the size of the professional staff. Typical payments for cooperative centers are 50-70 percent of the payments for other centers.

Center care that includes planned educational programs is still more expensive. Payments for such arrangements seem to be well represented in the proprietary sector by the Sutton Place Multimedia Preschool in New York at $3,000 per year and in the nonproprietary sector by the Child Development Centers of the OEO at $3,300 per year.[7]

These figures resemble the payments made by school districts for obtaining day-care and educational services through the public school system. Lewis reports that average pre-kindergarten programs operated through school districts cost between $700 and $1,100 per child per year. This range does not represent full-time care, however, but two to three hours per day for 40 weeks, and generally is used only for

four-year-olds. We set a conservative estimate of the cost of full-time programs in the public schools meeting interagency guidelines for toddlers at $4,000-5,000 per child per year.[8]*

Finally, there are some day-care centers, almost always highly research oriented, that provide "maximum" health and educational programs along with all-day care. We have labeled such centers "intensive" and discuss them in greater detail later. First-hand accounts of operating costs for these intensive centers are almost impossible to obtain. Rough estimates for their services, based on reported personnel use, would be at least $6,000 per-child, per-annum. Costs could exceed this by a factor of 2.†

Cost and Family Income

In our preceding discussion, we estimated the payments made by a family or government agency for obtaining day care, but a careful distinction must be made between these figures and what we call the costs to the family. This is a complicated area, beyond the general scope of

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*This assumes ordinary district expenditures of $750 per pupil per school year in a district with a pupil/teacher ratio of 30/1. An ordinary nine-month program would therefore cost about $3,750 per child to achieve a ratio of 6/1 (to correspond to federal interagency guidelines). Extending the program to 50 weeks to make it feasible as a day-care service and comparable to other year-round services cited brings the figure to just about $5,000. Some decrease might be achieved by the reduction of overhead costs, which are not necessarily proportionate to the pupil/teacher ratio, but such a savings would probably be equaled or exceeded by additional costs of equipment and special procedures specific to early-childhood programs.

†The project that presented the most detailed description of its personnel use was the Milwaukee project of Heber et al. Our calculation of personnel costs for this project suggests about $10,000 per child per year.

this paper, and we do not attempt to provide a detailed discussion. Some brief comments are helpful, however.

The payments which families make differ from total costs relative to two factors: subsidies and foregone income.

Two important forms of subsidy for day-care costs exist. The first form of subsidy is provided by AFDC agencies for child care (a form of vendor payment plan) and by all-day Head Start centers, where payment-free care is available to qualifying low-income families. The second important form of subsidy is provided through the income tax deduction allowed for day-care expenses. For families with little or no income, such deductions are of minimal importance, since these families pay little or no tax anyway. For families of middle income, however, this tax deduction may provide a subsidy of up to about 20 percent of the cost of care (depending on gross income and tax rate).

Costs to families will also vary according to income that is foregone when a family member (father, sibling, aunt) provides day care without payment (or for an intrafamilial income transfer) instead of obtaining outside employment. The size of the "opportunity cost" of day care will thus vary with the employable skills of the care-giver, as well as with the fate of the general economy. The importance of such foregone income will also vary with family income; it may be substantially more of a financial sacrifice for a low-income family to use a relative for at-home care than it is for a family of more adequate means.

The impacts of subsidies and foregone income are complicated and a more detailed data base will be required before firm conclusions can be reached.* The following salient points can be made, however:

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*Appendix B presents simulations of the cost of day care to families given a variety of income and subsidy levels.

- There are great differences between the total accounted costs of providing day care and the payments made by families to obtain this care. Similarly, there are great differences between the payments made by families and the total costs to families for obtaining various forms of care.
- These differences influence the choices families make among available options.
- The effective costs to families change irregularly over income groups. Some options are less expensive for low-income families and more expensive for middle-income families, while other options have exactly the opposite effect.

Summary

The annual federal investment and nonmonetary involvement in preschool services is substantial. Its most obvious impact is in providing out-of-home care for the children of low-income families. Beyond this much publicized impact, the federal government influences and subsidizes day-care services in a wide assortment of ways, of which little accounting and scant evaluation are made. Federal involvement is almost always underestimated.

Day-care and educational services vary widely but overlap greatly, and therefore need to be classified in some simple and logical way if discussion is to proceed. We found the distinction the federal government frequently makes between custodial care and developmental care difficult to apply because it refers to intrinsic values and desired outcomes more than to any easily observable differences in operation or measurable outputs.

Therefore, we suggest an initial classification based on the economic concept of primary and secondary beneficiaries. For example, programs whose services enable a parent to maintain full-time or part-time employment are termed parent benefit. All other programs are presumed to

provide (or to try to provide) benefits specifically to the child, and are termed child benefit. These categories correspond only roughly to traditional categories of day care and education.

The setting in which day-care services are provided is a second criterion for classification. Major alternative settings are care at home, care in another's home, proprietary and nonproprietary centers, research centers, and public schools. Annual costs for providing services in these settings vary from zero to several thousand dollars per child.

The payments made by families to obtain day-care services in various settings differ substantially from the absolute accounted costs of providing these services. Two major intervening variables are public subsidies and foregone family income, which alter the choices that families make among available options. Such alterations follow patterns that are largely dependent on level of family income.

III DAY CARE

Day-Care Services for the General Population

Against the background of information given in the preceding section, we are now able to address the three basic assertions from Section I in detail. The first assertion is that there is an overall shortage of day care, and a shortage of preferred forms of day care (especially center care), which will not be corrected through normal market mechanisms.

This assertion raises the following questions, which are dealt with below.

- Is there an overall shortage of day care?
- Is there a shortage of preferred forms of day care?
- Are normal market mechanisms inhibited or ineffective?

Is There an Overall Shortage of Day Care?

Few people would disagree that children under the age of six require care and supervision by some older person during any extended period of time. The preschool child for whom no provisions are made is receiving inadequate care, and a strong case can be made for intervention. Furthermore, any rise over time in the percentage of preschool children without care is a cause for concern and may indicate an overall shortage of day care.

A comparison of two major day-care surveys, the first in 1965 by Low and Spindler and the second in 1971 by the National Longitudinal Survey (NLS), shows a percentage rise in "latchkey" children under age six, although the real numbers are very small and not statistically significant.

In 1965, only 1 percent of white children were classified as "child cares for self," while in 1971 this number had risen to 3 percent. What is startling, however, is that this does not appear to be a problem associated with broken families or those whose resources are inadequate to purchase care. On the contrary, a detailed analysis of the 1971 data shows that the typical latchkey preschool child comes from a family that is in a middle-income bracket, where the mother has a high school education and has held a job for several years. The child is as likely to come from a two-parent family as from a single-parent family. Reported incidence of latchkey preschool children in other categories is relatively insignificant (see Tables 6 and 7). Certainly this phenomenon causes

Table 6

PERCENTAGE OF CHILDREN OF WORKING MOTHERS CLASSIFIED AS "CHILD CARES FOR SELF": 1965 AND 1971

Classification	1965	1971
By race (children under 6)		
White	1%	3%
Nonwhite	0	0
By marital status (children under 14)		
Married, spouse present	7	18
Other	13	15
By mother's education (children under 6)		
Less than high school	1	0
High school	0	5
More than high school	0	0
By degree of employment (children under 6)		
Full time	0	1
Part time	1	2

Source: Shortlidge, "Dual Careers," Chap. 4, Tables 1-5.

Table 7

PERCENTAGE OF CHILDREN UNDER AGE SIX OF WORKING MOTHERS CLASSIFIED AS "CHILD CARES FOR SELF": 1971 DETAILS FOR WHITES AND BLACKS

Classification	Whites	Blacks
By SES		
Low	1%	1%
Middle	6	*
High	0	6
By marital status		
Married, spouse present	2	1
Other	6	0
By education		
Less than high school	0	1
High school	4	0
More than high school	0	6
By degree of employment		
Full time	1	1
Part time	2	0
By weeks worked		
50-52	3	0
25-49	2	0
1-24	0	6
By length of employment		
5 years	4	0
3 years	0	0
1 year	0	0

*Sample inadequate for analysis.

Source: Shortlidge, "Dual Careers," Chap. 3, Tables 4-7.

concern, but the appropriate and effective federal policy is extremely unclear.*

Another indication of an overall shortage of day care occurs when children of working mothers are being cared for in one way, but the parents would prefer another type of care. If the proportion of dissatisfaction rises, an increasing shortage can be inferred.

The NLS survey provides some relevant data. According to the data analyses performed by Shortlidge and Low and Spindler, 91 percent of white mothers and 92 percent of black mothers were satisfied with their present day-care arrangements.[1]† (As a point of comparison, this is a far greater figure than that of parents reporting satisfaction with the public school system.) Dissatisfaction appears to have been greatest when the child was being cared for outside his own home.[2] Among dissatisfied parents, a larger percentage of black mothers than of white mothers expressed preference for public or private group care.[3] This subject is taken up again later. The principal point is that the vast majority of parents were

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*There is an important discrepancy regarding the comparison between the Low and Spindler and the NLS surveys. Namely, the Low and Spindler survey was conducted in February, while the NLS survey was conducted in the early summer. This may lead us to amend somewhat the suggestion of an increase in preschool latchkey children. For example, the increase could be related to the fact that, during summer months, older siblings are available for intermittent care of preschool children, whereas full-time care might be provided for these children during the school year. Such speculations, however, must be treated with caution.

†The 1971 NLS did not include a measure of the degree of satisfaction with present day-care arrangements. The Shortlidge analysis is based on an item which asks if there is any arrangement the mother would prefer over the present arrangement. Responses to this inquiry are clearly conditioned by a knowledge of alternatives, but the usefulness of the data is less limited for not having posed the question in terms of "available alternatives."

satisfied with their current day-care arrangements (most of which were at-home or family-group care), a situation that does not point to an overall shortage.

An overall shortage of day care might also be indicated if, in accordance with accepted economic theory, the price of day care was increasing (beyond the effects of general inflation), if the supply of day care was expanding, or if existing facilities were consistently oversubscribed.

Unfortunately, we know of no available data base that provides good information on the trend of prices for day care and makes adjustments for inflation.* Reliable data are also lacking on the demands for center care, since most figures simply make the inappropriate comparison between total preschool population and available licensed day-care slots.[4] Data on waiting lists and vacancies are scarce and confusing. The Westinghouse-Westat survey reported waiting lists of about 16 percent of available

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*The pricing of day care services is clouded by at least three issues:

(1) Federal and state subsidies for eligible participants are set at a maximum of $1.05 per hour. Therefore, fees--particularly in public day-care centers--gravitate to this level.

(2) The price of day care excludes the value of in-kind services.

(3) The price of day care is dependent on the nominal price of day-care expenditures, marginal tax rate, and adjusted gross income (see the calculation of net price and net expenditures in Appendix B).

Therefore, it is difficult to make unqualified statements about the price of day care. One factor which may tend to increase day-care costs is the recent coverage of day care workers under minimum wage legislation. Also, proposed staff/child ratios under Title 20 of the Federal Interagency guidelines are more rigorous than those under existing guidelines.

space, or about 124,000 children. The same survey, however, also reported 63,000 unfilled spaces, which were unevenly distributed among proprietary and nonproprietary centers.[5]

We also know that private-franchise and industrial-based day-care centers have not been able to survive over the past few years, when utilization of day care has been on the rise. Day-care franchises have been particularly unsuccessful, as reported by the Bank of America:

> The bloom on this budding industry soon fades as franchisers discover day nurseries to be a high-overhead, low-profit business incapable of generating high returns on invested monies.... Today fewer than 100 of the projected several thousand facilities are in operation throughout the nation.... Large corporations, after investigating the possibility of day-care franchises, have pulled back from the idea.[6]

The concept of industry-run centers for the children of employees was implemented some years ago by several large firms (such as Bell Telephone). An increasing number of these efforts are being abandoned however, in favor of other arrangements, including modified voucher/vendor payments that employees may use to pay whomever they choose to care for their children. Thus, although private day-care center enterprises--both subsidized and unsubsidized--believed they would be able to sell their services to fill unmet demands for child care, overall this has not been the case.[7]

We will need to distinguish, however, between the private professional centers and the private nonprofessional centers (principally family-group care). While the private professional centers have not expanded much, both the number and the capacity of family-group day-care homes have expanded very rapidly, as shown in Table 8. These figures must be approached with caution. The significant emphasis placed on licensing these centers during the period 1967-1972 meant that large numbers of previously unlicensed centers were now listed as new market entrants.

Table 8

NUMBER AND CAPACITY OF LICENSED OR APPROVED FAMILY DAY-CARE HOMES, 1967-1972

	March 1967	March 1968	March 1969	March 1970	March 1971	March 1972
Number of homes						
Family day care homes	24,300	27,400	32,700	40,700	55,400	60,967
Capacity of family day care homes						
Public	2,500	3,600	8,000	16,200	26,400	34,300
Voluntary	1,300	2,200	2,200	2,100	14,800	16,246
Independent	63,900	84,600	101,900	121,000	145,600	159,663
Auspices not reported	14,200	6,800	8,300	8,900	5,700	4,662
Total capacity	81,900	97,200	120,400	148,200	192,500	215,841

Source: Department of Health, Education, and Welfare.

What is not known is the size of the unlicensed or "underground" day-care segment during this period.

Finally, we could infer a potential shortage of day care if the total number of preschool children with working mothers were increasing and if the care provided for children of recent job entrants were inferior to those who had "gotten there first." Here again, the evidence is confusing and inadequate. Frequently cited polls report that one-fourth to one-half of mothers who were not working would work if adequate day-care facilities were available.[8] This raises the specter of more and more young mothers wishing to work and of more and more young children receiving inadequate care.

But is this the case? A closer look at many surveys indicates that they should be treated with extreme caution. For example, Lewis re-examined a survey of women from low-income families which indicated that almost two-thirds of unemployed respondents were constrained from working by the absence of adequate day-care services. Lewis reports:

> The apparent disparity of responses (64 percent "need child-care arrangements to go to work" but 6 percent would accept a job" if child care was satisfactory") in the same survey population is an indication of the unrealiability of using response rates to define the day-care needs of the group. It also shows the difficulty of using opinion-poll type surveys which attempt to predict future behavior.[9]

For a full discussion of survey data, see Appendix A.

Another approach to the issue of shortage and supply is to examine trends in demography and employment. In 1967, there were approximately 3.9 million working mothers,[10] with approximately 5.6 million children under age six needing day care. This reflected a birthrate of 17.9. When this birthrate was projected to 1973, it indicated that there would be 4.8 million working mothers with 6.9 million children needing day

care.[11] Such a projection faltered, however, because of the drastic decline in the fertility rate during the early seventies. In fact, the 4.8 million mothers of 1973 had only 6.0 million children (a birth rate of 14.6).[12] The continually declining fertility rate has meant that the need for day care for preschoolers has not risen much, if at all, during the past few years, despite a rise in the absolute number of working mothers. As shown in Table 9, the percentage of children under age six with mothers in the labor force is rising only slowly.

Table 9

NUMBER OF CHILDREN UNDER AGE SIX WITH MOTHERS IN THE LABOR FORCE, 1970-1973

	1970	1972	1973
Total children under age 6	19,606,000	19,235,000	19,145,000
With mother in labor force	5,590,000	5,607,000	5,952,000
Percentage of children under age 6 with mother in the labor force	28.5%	29.1%	31.1%

Source: Derived from statistics published by the Department of Labor.

Furthermore, census projections based on present fertility rates indicate that the peak in absolute number of preschool children in the U.S. population will be reached within the next decade. At the peak period, the number of such children will exceed the number of preschool children in 1972 by less than 5 percent.[13*]

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*It is now being shown that these projections have overestimated population growth.

Of additional interest is the fact that, according to the NLS survey, new entrants to the labor force are making noticeably greater use of at-home care--with more fathers and more siblings providing this care (Table 10).[14] One possible explanation for the greater use of at-home care is that other kinds of care are not available. This may be the case, but from the statistics alone we cannot tell. It is just as likely that changing role definitions and life styles have increased the availability of this preferred type of day care for young families, and that other options would not be taken even if available at suitable cost. This leads us to the next important point, which is an investigation of consumer preferences in day care.

Is There a Shortage of Preferred Forms of Day Care?

Even if there is not an overall shortage of day care, i.e., even if all preschool children with working mothers are adequately cared for, there may still be a shortage of a different sort, if parents prefer a type of care other than the type they are using. How are we to know what type of day care parents prefer, and why they prefer it? Utilization surveys tell us only what families do, not why they do it; satisfaction and attitudinal polls are unreliable in predicting real marketplace behaviors. In general, it is hard to be content with a survey design that asks respondents what their preferences would be. What is needed instead is an analysis based on how respondents revealed their preferences by examining the choices they made. Utilization studies are helpful for precisely this reason. These studies have a serious problem, however, because they treat day-care options as indivisible packages and thus can tell us very little about exactly which attributes of the preferred form make it attractive. This severely limits any detailed policy understanding of the data.

Table 10

PERCENT DISTRIBUTION OF DAY-CARE ARRANGEMENTS FOR WHITE MOTHERS* WITH YOUNGEST CHILD UNDER AGE SIX BY LENGTH OF PARTICIPATION IN THE LABOR FORCE

Day-Care Arrangement	Participated in Labor Force†		
	All Survey Dates 1967 to 1971	Any Two Survey Dates Between 1967 and 1971	For the First Time in 1971
Care in own home			
By father	11%	10%	25%
By sibling	6	14	16
By other relative	7	9	4
By a combination of family members	12	9	7
By family and nonfamily members	3	11	9
By nonrelative	7	14	5
Subtotal	46%	66%	67%
Care in another person's home			
By relative	6%	4%	4%
By nonrelative	25	2	5
Subtotal	31%	6%	9%
Other arrangements			
Public group day care	0%	2%	0%
Private group day care	3	8	2
Public or private group day care with another means	4	3	5
Child cares for self	4	0	0
Mother cares for child at work	8	2	11
Mother cares for child after school	0	2	5
Other means or combination	4	11	2
Subtotal	24%	28%	25%
Total	100%	100%	100%

*Respondents interviewed in 1967, 1969, and 1971, who were in the labor force in 1971.

†Totals may not add because of rounding.

Source: Shortlidge, "Dual Careers," Table 3.7.

Complaining about data and methods may soothe academic consciences, but it gets us no closer to providing guidance for policymaking. The least (and the most) that can be done is to use the available studies, respect their limitations, and combine them in such a way that they are as helpful as possible. There are a number of sources of information on utilization and preference for day-care options. On the one hand, if the information gathered from these various sources disagrees, we cannot settle the ambiguities. If on the other hand, the information from these sources agrees, we can have considerably more confidence in our conclusions.

The Low and Spindler survey provides some indications of utilization from which we can infer preference (see Table 11). This survey showed that in 1965 about 47 percent of preschool children with working mothers were cared for in their own homes, 31 percent were cared for in someone else's home, 15 percent were cared for by the mother at her place of employment, 5 percent used day-care centers, and a variety of arrangements were made for the remainder. This information suggests that, all other things being equal, own-home care or care in another's home are the preferred types of care. This suggestion is given weight by the finding that the same preferences are repeated with remarkably little variation across all income groups. There is a slight increase in the utilization of own-home care as family income rises. The clear inference is that own-home care is chosen not only because it is inexpensive but also because it is seen as preferable to other types of care. This cannot be taken as conclusive, however, since such patterns might still reflect only the relative availability of various day-care services, or the slightly greater ability of upper-income families to hire domestic employees.

Table 11

PERCENT DISTRIBUTION OF DAY-CARE ARRANGEMENTS FOR CHILDREN UNDER AGE SIX BY FAMILY INCOME

Day-Care Arrangement	Under $3,000	$3,000 to $5,999	$6,000 to $9,999	$10,000 and Above	All Incomes
Care in own home					
Father	6.3%	13.4%	20.3%	13.3%	14.7%
Other relative					
Under 6 years old	7.6	1.2	1.3	0.4	2.1
6 years old and over	21.7	13.4	14.2	11.7	14.8
Nonrelative					
Who looked after children	6.5	6.7	11.8	9.9	8.7
Who did additional household chores	1.8	4.1	7.3	15.4	6.5
Subtotal	43.9%	38.8%	54.9%	50.7%	46.8%
Care in another person's home					
Relative	15.2%	17.8%	14.5%	8.9%	14.9%
Nonrelative	14.5	18.5	14.0	17.8	16.2
Subtotal	29.7%	36.3%	28.5%	26.7%	31.1%
Other arrangements					
Care in group care center	3.4%	6.8%	4.1%	7.7%	5.4%
Child looked after self	1.6	0.7	0.2	--	0.6
Mother cares for child at work	20.8	17.7	10.6	12.9	15.0
Mother cares for child after school	0.4	0.2	1.1	2.2	0.8
Other	--	0.2	0.7	--	0.3
Subtotal	26.2%	25.6%	16.7%	22.8%	22.1%
Total*	100%	100%	100%	100%	100%

*Totals may not add because of rounding.

Source: Low and Spindler, "Child Care Arrangements," pp. 92-93.

Also interesting are the data from the NLS survey as they relate to preferred day care in 1971 as analyzed by Shortlidge (Table 12). These data show that own-home care for preschool children of working white mothers had risen from 48 percent in 1965 to 56 percent in 1971. Among nonwhites, the percentage had risen from 44 to 61 percent. This may indicate an increasing preference for own-home care. It may also indicate the relative availability of the other two major choices (care in another's home, which had fallen for both groups, and center care, which is discussed later). Unquestionably, it does show that the total supply of own-home care was flexible and that it was chosen not only by those most able to choose, i.e., middle-class mothers, but also by those with fewer resources.

The situation is clarified when we realize that these utilization patterns do correspond very closely to attitudinal and satisfaction surveys of day-care users. The Westinghouse/Westat survey determined that parents have an effectively ordered set of criteria for choosing among day-care options.[15] These criteria are listed below in descending order of preference:

- Closeness to home
- Cost
- Convenience of hours
- Sick-child care
- Program (i.e., education).

This ordering corresponds almost exactly to Low and Spindler's findings about satisfaction with day-care arrangements. The option that best fits these criteria is obviously own-home care, with care in another's home and subsidized center care vying for second place (depending on the relative weights given to cost and convenience of hours).

The NLS survey did suggest some low-level dissatisfaction with certain types of own-home care. Some parents expressed concern when such

Table 12

DAY-CARE ARRANGEMENTS FOR CHILDREN UNDER AGE SIX
FOR 1965 AND 1971, BY RACE

Day-Care Arrangements	1965		1971	
	Whites	Nonwhites	Whites	Nonwhites
Care in own home				
By father	16%	9%	15%	9%
By other relative	15	28	17	25
By combination of family and nonfamily members	--	--	17	15
By nonrelative	17	7	7	12
Subtotal	48%	44%	56%	61%
Care in another person's home				
By relative	13%	24%	4%	9%
By nonrelative	15	18	14	8
Subtotal	28%	42%	18%	17%
Other arrangements				
Care in group care center	6%	6%	8%	15%
Child cares for self	1	0	3	0
Mother cares for child at work	16	9	7	4
Mother cares for child after school	1	1	1	2
Other	0	0	8	2
Subtotal	24%	16%	26%	23%
Total*	100%	100%	100%	100%

*Totals may not add because of rounding.

Source: Shortlidge, "Dual Careers," Table 4.1.

care was provided by nonrelatives--presumably daytime domestic employees who also performed other household tasks. These parents would have preferred own-home care provided by relatives. Low and Spindler noted a similar low-level dissatisfaction by some parents (mostly nonwhite) using own-home care provided by siblings under age sixteen. The preference appeared to be that sibling care be replaced by care provided by the father or by another adult relative. It may be significant in this respect that the regulations for income tax deductions for day care specify that no deduction may be allowed for care provided by a relative either inside or outside the child's home.[16]

Taken alone, each piece of behavioral or attitudinal evidence that is discussed above may be disputed. When combined, however, the evidence clearly suggests that most families prefer day care provided at home.

Are Normal Market Mechanisms Inhibited or Ineffective?

There is an implication that some feature or features of day care effectively prevent normal market mechanisms from correcting a supply/demand imbalance in the ordinary way (i.e., by raising the price or increasing the supply for sale), and therefore call for federal intervention. Classically, the three general reasons for federal intervention in an economic market are:

(1) Barriers to entry by private producers.

(2) The need for large-scale enterprise that cannot or will not be undertaken without external support.

(3) A societal evaluation that some good or service represents a "social good" that individual consumers will undervalue and therefore underpurchase.

The market for day-care services has remarkably few barriers to entry in any traditional sense. The materials, toys, books, and so on are broadly available and inexpensive. Centers operated in private homes

or in community buildings usually require little alteration of their facilities, and materials are available at little or no cost. No price controls are imposed except those set by the market itself.* Many states do require that certain standards be met for licensing day-care facilities, and in some cases these standards may be quite detailed. However, the requirements are rarely prohibitive financially, although they may inflict a differential imposition on poor communities. One major problem that does exist, however, is that licensing requirements may not have much to do with the quality of care, i.e., the kind of quality families look for in choosing among alternatives. Thus a very sizable "underground" market exists, composed of family-group-care homes that satisfy parental criteria but do not conform to requirements for local licensing or federal subsidy.

Day care seems to be an "industry" that is, if anything, antithetical to large-scale enterprise, and there is no apparent benefit to day-care services or cost from large-scale or nonlocal operations.

We are left with the difficult problem of evaluating whether families are purchasing "enough" day-care services in terms of economic externalities, i.e., social values. That is, if day-care services are viewed as a parent benefit, the question is whether more women "should" enter the labor force and whether this would be accomplished if a different selection of child services (i.e., more center care, more family-group care, or different provisions for home care) were available. As discussed above, there is no clear evidence that day-care services are a significant deterent to entry, and the weight of present evidence suggests that they are not going to become a major inhibiting factor during the next decade.

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*This may not always be true. Large government subsidies may help to control prices of center care at an artificially high level, rather than constrain prices at an artificially low level.

On the other hand, if day-care services are viewed as a child benefit, we seem to come down to two issues. The first issue is whether or not children of working mothers receive inadequate care. Although a small proportion of children do receive inadequate care, the appropriate and effective response to this problem is probably not an overall expansion of available licensed services. The problem seems to require some internal change in day-care services in response to the peculiar phenomenon of middle-class, latchkey children. The incentives for mothers of these children to provide care must be changed.

The second issue is whether or not day-care services provide some later benefit(s) to children (particularly children from low-income families), which in itself constitutes a social good. This issue is discussed in Section IV.

The Special Case of Low-Income Families

The second assertion examined in this report is that the present day-care market is inequitable for low-income families, who cannot exert their preferences for day care because of the cost or the limited supply of certain types of care.

This assertion raises the following questions, which are dealt with below:

- What are the preferred forms of day-care services?
- How are choices affected by cost and information factors?

What Are the Preferred Forms of Day-Care Services?

In the sections above, we approached the difficult issue of determining preferences in day-care arrangements by combining data on utilization and expressed attitudes. This also seems to be the best approach

to use for determining whether or not the preferences of low-income families differ from those of the population as a whole. A number of points emerge.

Based on utilization surveys, the general preferences in day-care arrangements do not vary much between low-income and upper-income families, or between nonwhites and whites (see Tables 11 and 12). That is, about half the children of working mothers from low-income families are being cared for in their own homes, a smaller proportion are being cared for in someone else's home, and various fractions are using group center care or other arrangements. The percentage of children cared for in their own homes appears to have risen between 1965 and 1971 (see Table 12) and has done so across all socioeconomic groups (see Table 13). Finally, a very high proportion (over 90 percent) of nonwhite mothers or mothers from low-income families were satisfied with their present arrangements. Thus, own-home care seems generally to be preferred.

The utilization surveys do show a noticeable difference in the frequency of utilization of center care. The 1965 Low and Spindler survey reports that center-care utilization did not vary much by income group, averaging about 6 percent. In the 1965-1971 period, utilization of center care by whites changed little, but utilization by blacks rose from 6 to 15 percent. In addition, about 6 percent of black mothers would have preferred center care to the type of care they were using.

We must ask several questions. Do these utilization phenomena reflect a clear preference of minority or low-income families for center care? If so, why is this the case? Does this increase in center utilization signal a rising unmet demand for center care?

In the first place, the increased use of center care may represent a general preference on the part of these families for center care over home care, regardless of price. Some low-income families may feel, for

Table 13

PERCENT DISTRIBUTION OF DAY-CARE ARRANGEMENTS FOR WHITE MOTHERS* WITH YOUNGEST CHILD UNDER AGE SIX, BY SOCIOECONOMIC STATUS (Duncan Index)

Day-Care Arrangement	Low SES	Middle SES	High SES
Care in own home			
By father	19%	15%	7%
By sibling	13	6	12
By other relative	5	5	12
By a combination of family members	5	13	14
By family and nonfamily members	7	7	7
By nonrelative	10	3	10
Subtotal	59%	49%	62%
Care in another person's home			
By relative	5%	5%	2%
By nonrelative	13	17	10
Subtotal	18%	22%	12%
Other arrangements			
Public-group day care	0%	2%	0%
Private-group day care	4	8	2
Public- or private-group day care with another means	2	3	6
Child cares for self	1	6	0
Mother cares for child at work	7	8	7
Mother cares for child after school	2	0	4
Other means or combination	6	3	8
Subtotal	22%	30%	27%
Total†	100%	100%	100%

*Respondents interviewed in 1967, 1969, and 1971, who were in the labor force in 1971.

†Totals may not add because of rounding.

Source: Shortlidge, "Dual Careers," Table 3.2.

example, that licensed center care provides a safer, healthier environment than does home care in improverished neighborhoods. Some strength is given to this hypothesis by the finding that of the approximately 10 percent of working mothers from low-income families who were not satisfied with present arrangements, the greatest dissatisfaction occurred when preschool children were being cared for at home by caretakers under age sixteen (presumably older siblings) or by nonrelatives. For these families, center care can (understandably) be seen as a preferred option.

There is also some indication that center care is attractive to some low-income or minority families because such centers may offer a variety of community development activities, job opportunities (as classroom aides or liaisons for projects), social contacts, and the delivery of other social services (e.g., career counseling, social and psychiatric counseling, and health care programs) provided by federal, state, and local agencies.* Although in most cases utilization of center care would not result in the mother's employment, these opportunities would fit easily under the parent-benefit classification.

These economic and personal circumstances provide understandable reasons for preferring one type of care to another. They do not provide justifications of equal strength for federal support, however, particularly in the face of the substantial cost differences between center care and other day-care services.

In seeking to understand the increase in use of center care by low-income families, we must also remember that the federal government (through a variety of social programs, such as Head Start) is in the peculiar position of being both the largest supplier and the largest consumer of preschool center care. As in any business or bureaucracy, there is thus considerable vested interest in the continuation and

*Official at OCS (private communication).

expansion of the enterprise. The fact that the federal government has been able to convince substantial numbers of people to accept these services at no cost, however, does not necessarily provide a convincing justification for either continuation or expansion, especially on the basis of parent preference.

Finally, the issue of parent preference must be considered in the context of costs. A considerable cost incentive may exist for low-income families to use center care rather than other forms of day-care.

The Effects of Cost and Information

For many low-income families, center care is often a no-payment or very low-payment option. This makes center care the differentially preferred form of day care by such families, in contrast to middle-income families, who must pay most or all of the substantial cost of center care. This suggests that low-income families may be increasing their use of center care because it costs less than obtaining care in their own home, for which there is little or no subsidy.

The apparent preference for own-home care demonstrated by utilization studies must be considered in the context of the structure of implied costs. Utilization of at-home care by low-income families can often mean that a resident family member or relative provides child care "for free" instead of taking another type of paid employment. Such an arrangement imposes a greater hardship on low-income families who choose at-home care than it does on upper-income families, where the income of additional wage earners is less of a necessity.

Seen from this perspective, the preponderant choice of at-home care by low-income families suggests an even stronger statement of preference for this form of service, since it is chosen despite its unusually high cost, rather than because of its apparently low cost. It is important

to remember that the choice of at-home care for low-income families may represent an economically rational one for both the family and society. Unless the wages earned exceed the cost of providing day care, there is little economic sense in working. For poorly educated adults, the low wages available to them rarely cover the cost of providing reasonable quality care outside the home,[17] unless it is provided for free.

Choice can also be constrained or preferences affected if low-income families lack adequate information about costs and availability of options, and thus choose differently. The underlying assumption is that working mothers from low-income families lack information about accessible center care. On this point we have little concrete evidence. There is some suggestion, however, that low-income families lack information on other day-care options (specifically on the number, cost, and location of licensed family-group-care services)* and the extent to which public agencies will subsidize the choice of family-group care.

The Camil Associates survey of child-care arrangements under several subsidized job-training programs suggests, however, that neither improved information nor open subsidies change choice very much.[18] Three government-sponsored programs (CEP, MDTA, and WIN) provided some assistance in placing children and some subsidies, though the amount of both assistance and subsidies varied greatly. The resultant arrangements did not vary much, however, across programs (see Table 14). It appears that a higher percentage chose family-group care outside the home than was the case in either the Low and Spindler or the NLS surveys. It seems sensible to attribute this choice to the presence of more information and subsidies, which tends to support the notion that licensed family-group care suffers from lack of publicity. The presence of more information did not, however,

*Betty Williamson, San Jose, California (private communication).

Table 14

PERCENT DISTRIBUTION OF DAY-CARE ARRANGEMENTS
FOR THE FIRST THREE CHILDREN OF MOTHERS
IN GOVERNMENT JOB-TRAINING PROGRAMS

Day-Care Arrangement	Training Program in Which Mother Enrolled			
	CED	MDTA	WIN	All Programs
Care for self	8%	4%	3%	4%
School	15	16	12	13
In home				
Relative/friend	30	26	25	26
Babysitter	6	12	15	13
Out of home				
Relative/friend	13	20	17	17
Babysitter	12	22	15	15
Day care center	15	11	14	14

Source: Camil Associates, "Evaluation of Supportive Services," p. 64.

have the effect of raising the proportion of mothers choosing center care. This figure remained at the familiar 14-15 percent.

Obviously this is far too little information from which to draw many conclusions, but the suggestive evidence points to some generalizations. Cost factors do seem to influence the choices that low-income families make, and present patterns of subsidy may have the effect of making at-home care an expensive, although economically rational choice for these families. Nevertheless, care at home or in another's home remains the overwhelming choice, even when considerable additional information is available about optional settings.

Interim Conclusions

We have not found evidence that the predicted crisis in day care has emerged or is likely to emerge in the near future. Nor have we found evidence of an overall shortage of day-care opportunities. On the contrary, the anticipated growth of center-care use has not materialized. Faced with the full cost of this form of care, many families have apparently chosen to provide care for children in their own homes. Broadly speaking, the supply of all forms of day care appears to be expanding in proportion to present needs, and with the total population of children under six relatively stable now, we do not see evidence of massive, upcoming, unmet demand. Therefore, we do not see a strong case for raising the overall level of federal support in this area, or for initiating massive new programs.

The form and effects of present federal policies on day care must be assessed, however. Clearly the preferred form of day care is that provided in the home, preferably in the child's own home, and preferably by an adult relative. Present federal policies, (such as Head Start, AFDC, and the income tax), however, heavily favor center care. This discrepancy is apparent in the guidelines for income tax deductions, since payments to relatives are disallowed, and maximum allowable deductions cannot support competitive salaries for at-home care by a nonrelative unless there are three or more children in the home. Some adjustment in these guidelines appears necessary if indeed federal policy is going to assist families in providing the kind of day care they most desire.

Solutions also must be sought for the problem of latchkey children. Currently, there does not appear to be an appropriate vehicle for federal intervention. The problem seems too complex to be solved simply by providing more voluntary day-care programs or by simple adjustments in

the income tax allowance. Moreover, making changes in the existing center-care programs does not seem to offer much hope, since latchkey children are predominantly from middle-class families, not from low-income families at whom most present federal programs are aimed.

Finally, complex problems must be solved relative to the use of day-care centers by low-income and minority families. It costs much more to provide center care than it does to provide equivalent care in other forms. Therefore, a firm case must be made in terms of either parent benefit or child benefit to justify this disproportionate expenditure of public funds. Clearly, low-income and minority families are making much greater use of day care than they did several years ago, but their reasons are not obvious. Present evidence seems inadequate to the task of disentangling the self-fulfilling demands of massive social intervention programs, such as Head Start, from changes in utilization due to the effect of market subsidies, or from real parent preferences. Until appropriate evidence can be provided, initiatives in this area should be approached with great caution.

Further complicating the federal stance is the continuing national confusion over whether or not center care does or can provide substantial later benefits to low-income or minority children as a result of early education. We assess the evidence on this issue in Section IV.

IV EARLY CHILDHOOD EDUCATION

The third major assertion, which pragmatically links day care and education, is that providing better preschool experiences, particularly in the form of early-childhood education programs, is indispensable to ensuring children from low-income families against later school failure. If this assertion is true, then there is justification for providing federal support and subsidies for certain types of programs for preschool children, even if these programs do not reflect parents' preferred choices of day care. That is, if sufficient child benefit can be demonstrated, a case can be made for federal intervention (subsidy and publicity) that alters the marketplace in a manner inconsistent with those consumer choices based presumably on parent benefit (preference). It was on an assumption of child benefit that the federal government instituted large-scale preschool services during the last decade.

The war on poverty of the mid-1960s raised national concern about the apparent phenomenon of children from minority and low-income families who consistently did poorly in school and who apparently entered the school system on an unequal footing with their upper-income counterparts. At that time there was not (as there is not now) sufficient reliable data to establish the validity of, the causes of, or the cures for this phenomenon, but is was assumed that participation by low-income and minority children in some form of preschool program could help to bridge the apparent gap. In the absence of any conclusive data, this was not an illogical assumption. Whether it remains a sound assumption and a sensible policy can be judged by studying the results of preschool intervention experiments of the past decade.

Literally dozens of reviews have been written on the effectiveness of early-childhood intervention, based on hundreds of program and project evaluations. Two outstanding early reviews were written by the Westinghouse Learning Corporation and by Stearns. More recently, reviews of the early-childhood education experience have been written by White et al., and by Bronfenbrenner. These works can help to order and examine an otherwise overwhelming mass of information.

The appropriate federal response to the issue of early-childhood education in the late 1970s and 1980s must depend largely on the answers to two central questions:

- Do we know of any form of treatment or participation for preschool children that will improve the long-term cognitive abilities of impoverished, "at-risk" children?
- If any such design is known, can it be effectively generalized into a broad public-policy program?

Unless both questions can be answered affirmatively, programs of early-childhood education offer no more than a very expensive shot in the dark.

Even if neither of the above questions can be answered affirmatively, the federal government might still assume a legitimate role in financing basic and applied research in early-childhood education. This should be a separate decision, however. A research program does not necessarily imply or justify a general support program or vice versa. A research program is based on the question, What do we want to find out? A general support program must be based on the question, What do we already know?

In this section, we organize and assess existing data on the effectiveness of early-childhood programs designed to improve children's cognitive abilities and later school performance. We first discuss programs aimed particularly at preschool children (defined as ages four and five). We next discuss intervention programs for infants and toddlers (defined as ages zero to three).

Preschool Programs

Classifying Preschool Programs

Drawing from the White et al. review, we divide preschool programs into four models, depending on the approaches to preschool experience:

- Social Services Models--Projects in this category concentrate most of their funds and efforts on providing health services to the child and his family, arranging for supplemental services, such as crisis intervention, food stamps, family counseling, and job counseling, and instructing parents in nutritional, health, and safety practices.
- Cultural Enrichment Models--Projects in this category concentrate on providing the preschool child with social and cultural experiences otherwise beyond his reach, and on providing the preschool as a socializing mechanism to accustom children to the routines and interactions of the school setting. Considerable emphasis may be given to field trips. The teaching methods are essentially those of the traditional nursery school.
- Cognitive Development Models--Projects in this category chiefly concern the development of certain patterns of thinking. Many projects draw heavily from Piagetian or Montessori models, or both. The theory is that disadvantaged children differ from others in that they develop abstracted thinking skills more slowly and less completely. By concentrating on the development of these abstract skills in preschool, it is hoped that the children will be more comfortable with and more competent in the tasks of later school years.
- Preacademic Models--Projects in this category differ from those described above in that they are chiefly concerned with the acquisition of specific skills (rather than general ways of thinking) and the learning of specific content matter. Most of these projects use highly structured, programmed instruction, and some make extensive use of positive/behavioral reinforcement techniques. The theory, if any, behind preacademic projects is that disadvantaged children differ from other children in having acquired less subject knowledge (not in having less well-developed abstract skills).

In practice, almost all early-childhood education projects combine aspects of these categories. Most commonly, social services will be

combined with one of the three learning models, but is is not unusual to find projects in which aspects of the three learning models are also combined in a variety of eclectic patterns. Nevertheless, most projects lean more heavily on one model than on others, and the categorization we have described provides a way to examine the effectiveness of different approaches.

Assessing Effectiveness

The reviews cited above reveal the following about each model.

Social Services Model

Children from low-income families often need clothing, food, and health care. When these are provided, the children are observably warmer, less hungry, and more healthy.[1] Of all the models, this should be the most "successful" when its objectives are clear, treatment is obvious, and results are easy to see. Social services, however, when provided as an adjunct to educational programs, seem to be distributed on ad hoc and informal bases, with little or no attention given to either the short-term or long-term impacts. Thus, we really know very little about this model except that it is highly valued by program personnel and is assumed to have intrinsic worth for improving the quality of life for children from low-income families. The reviewers in general support this assumption, but point out that a more systematic assessment of social services is needed for policy purposes.

Cultural Enrichment Model

Evaluation of projects following the cultural enrichment model is not encouraging. Most Head Start and compensatory kindergarten projects produced small but insignificant gains on cognitive measures.[2] Similar

gains are made by controls after school entry, however. It has been confirmed that these gains take place subsequent to a child's first exposure to formal schooling, regardless of the child's age or the type of program. It also seems that gains made from general enrichment preschools are neither greater nor more enduring than those made by control groups who enter school later.[3] At best these projects may help to ease the social transition from home to school, a transition that is often difficult for children from low-income families (as well as for primary grade teachers). However, these projects, which were principally extensions of the traditional nursery school, seem to have had very little effect on the IQs, skills, and self-concept of children from low-income families, or on their subsequent school performance as measured by grades received.[4]

Cognitive Development Model

Most projects in this category seem to have had negligible effects on participating children. A few projects that were highly structured sometimes resulted in improved IQ and skills scores for participating children when tested at the time of school entry.[5] Comparison with control groups, however, raises an interesting question: Did these projects simply speed the attainment of abstract skills without appreciably raising the ultimate level of those skills? In the very best instances, which are few, some vestiges of improved IQ or skills performance remained after a year or two of formal schooling. In most cases, however, the projects seem to have effected no lasting differences between participating and control-group children.

Preacademic Model

From some perspectives, findings of evaluations of preacademic projects may seem more encouraging. Compared with other models, the

preacademic approach seems more likely to produce measurable skill differences between participating and control group children. In the case of the best administered, most highly structured, and thoroughly researched projects (frequently based on the Bereiter-Englemann model or on token economy models) several measurable and positive differences emerge. Participating children seem to show somewhat higher IQ scores and greatly improved subject matter and skills performance scores than control-group children. (Effects on noncognitive variables differed widely, as might be expected in a model that does not seek any specific effects in this domain.)

As regards the long-term effects of these projects, Bereiter himself notes that an additional year of participation (kindergarten plus first grade) is not of substantially greater value than a single year of participation (first grade only). Thus, he confronts the phenomenon of IQ and achievement test scores that converge by the end of the treatment period. It would appear that either long-term participants fall behind or short-term, older participants "catch up" more quickly.[8]

The preacademic models are clearly the most measurably effective of present preschool projects, but it is difficult to ignore the strong suggestion that, even with this model, exposure during the earliest period (age four) seems less important than exposure during the later periods.

Conclusions

The effectiveness of the four models of preschool projects is represented and summarized in Figure 3. None of the four models appears to have significant negative effects on participating children. Projects that concentrate on social services appear to have moderate positive benefits on children's health, nutrition, and quality of life. When a cultural enrichment model is used, no negative effects are evident, but neither are any positive effects (either cognitive or noncognitive).

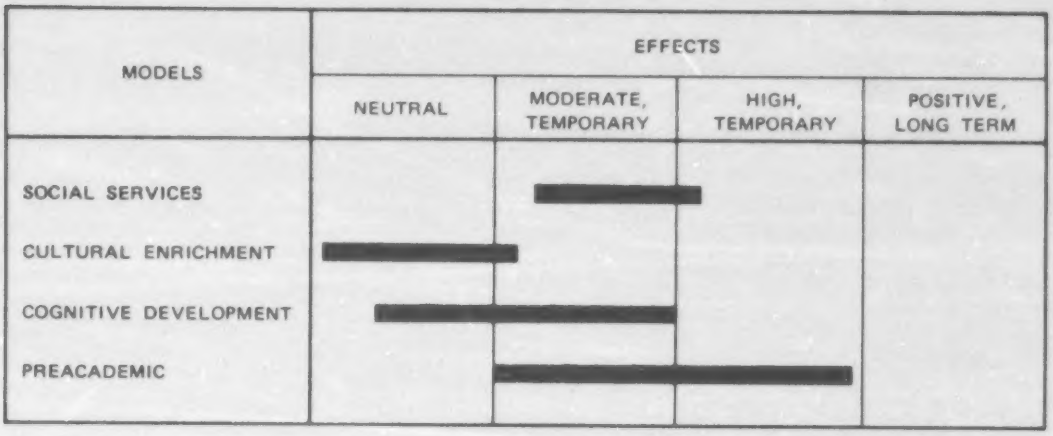

FIGURE 3 EFFECTS OF PRESCHOOL MODELS BY TYPE OF MODEL

Cognitive development models are similarly undistinguished, though a few have demonstrated moderately high temporary cognitive effects. The degree of positive effects seems to depend largely on the degree of program structure. The preacademic orientation seems to be the most successful approach according to currently available cognitive measures. Most preacademic models produce moderate measurable-skills improvement in participating children, and a few of these projects have shown truly impressive skills gains for participants. None of the reviews has been able to report any demonstration of lasting change in the cognitive skills or quality of life for participating children, however.

By now, several conclusions about preschool educational programs are inescapable.

The first conclusion is that highly structured teaching projects have greater short-term educational payoffs than do more generalized projects. This finding has been voiced by every major reviewer.

> The more a program is well-formulated, well-organized, and focused on intellectual attainment and language skills, the greater are the changes in children's intelligence test performance.[7]

> The most effective projects (in terms of the measurable goals of preschools on child performance) are the most structured. Included in this meaning of structure are operational statements of objectives and the best means to accomplish them; consistent implementation of the strategies most useful in obtaining the objectives; and perhaps as well, staff planning and commitment which serve as a base for striving toward defined objectives.[8]

> With respect to the differential impact of various curricula there can be little doubt that more structured programs are more effective for disadvantaged children at the preschool and primary level.[9]

A second conclusion is that such curricula are more effective when implemented in small, well-designed, experimental research conditions than they are when generalized to broad support programs. White et al. write that "small, well-designed experimental programs generally produce larger gains than do large-scale public programs."[10] With this in mind we must treat with considerable skepticism any suggestion that effective curriculum or project design be made the basis of a broad support program.

A third conclusion, which underscores the importance of such skepticism, is that even from the very best preschool projects, short-term benefits are not retained significantly beyond the treatment or participation period.

> Preschool attendance--even in centers with the most sophisticated knowledge, personnel, and planning--does not make a difference in either achievement or measured intelligence in disadvantaged children by the end of the primary grades.[11]

> The effects of most preschool projects on IQ scores do not persist beyond the second or third grade .... This "washout" suggests that preschool projects do not exert a permanent impact on intellectual level.[12]

> By and large, the experimental groups do not continue to make gains when intervention is continued beyond one year, and even more regrettably, the increases achieved on the initial phase, even the largest ones, tend to 'wash out.' In general, one year after intervention is terminated, the IQ of "graduates" begins to drop.[13]

In 1975 it is simply impossible to ignore the overwhelming evidence: we know of nothing that can be done in an organized preschool to immunize children against subsequent, often severe, difficulties in elementary and secondary school.

Infant and Toddler Programs*

A common reaction to the uniformly disappointing results of preschool intervention programs is to suggest that we must begin intervention efforts earlier in the child's life to effect any significant difference.

Before committing the nation to a broad and expensive public policy based on this premise, however, it would seem wise to examine the form and effectiveness of the many existing educational intervention programs for infants and toddlers from low-income families. The educational theory behind these programs is that some intervention, stimulation, or enrichment of the child's life during the infant and toddler years will result in improved school performance at a later date. Since such future benefits are almost impossible to measure, proxies are ordinarily used, such as measurements of IQ, social-adjustment scales, or assessments of motor or mental skills appropriate to this age group.

Classifying Infant and Toddler Programs

For the purposes of this discussion, we can disregard two of the most widely used infant and toddler programs (home care and family-group care), since these situations generally lack specific intention to provide "enrichment" or special cognitive development programs. In general, three

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*Infant and toddler educational intervention programs are sometimes quite difficult to distinguish from day-care programs. The main difference is a conceptual one; infant and toddler programs are said to be "child-oriented," that is, they are supposed to be justified by direct benefits to the child rather than by the more traditional benefits to the parents.

types of programs do have educational goals: developmental day-care centers, intensive intervention centers, and family-training intervention projects.

- Developmental Day-Care Centers--These centers provide group care for children in a center that is not a private home. Professional or paraprofessional staffing is used; special facilities, toys, and nutritional supplements are provided, and day-to-day operations show broad concern for supporting and encouraging important aspects of child development. Such centers are usually sponsored by a community action group, church, or charitable organization.
- Intensive Intervention Centers--These centers are research projects with preselection of children and unusually stable participant populations, highly trained professional staffs, and very high staff/pupil ratios. Children are often in these centers for as many as 10 hours a day, from the time they are a few months old until they enter school. They engage in highly structured, individual learning activities, according to a preplanned schedule and an integrated plan for cognitive development during the first several years of life. Progress of children is continually observed and periodically tested and diagnosed.
- Parent-Training Intervention Projects--In these projects, trained professional or paraprofessional staff work with children and parents in their own homes. During home visits the staff member works directly with the focal child, using cognitive stimulation exercises, and providing toys, games, and other materials. The staff member also works directly with the mother, instructing her in the use of special materials and in the importance and techniques of positive reinforcement and elaborative verbal patterns. Some programs concentrate specifically on making the mother the principal teacher of the child. Health, vocational, and personal counseling services are frequently provided to all family members. Mothers and children may also attend centers once or twice a week.

Assessing Effects

The problems of evaluation of infant and toddler programs are enormously complicated. These programs could be evaluated on the basis of

a wide variety of criteria, such as their effects on health, emotional development, and cognitive development. Little useful evaluative information on any of these criteria is available, however. Certain health effects can be recorded and evaluated, but they almost never are.[14] Measures of socioemotional development are frequently kept, but there is severe disagreement over their value. More so than in any other evaluation area, socioemotional development scales are highly dependent on specific ideologies, and their usefulness to someone of different ideological persuasion is very limited. A number of instruments exist for assessing the cognitive development of very young children. Again, there is some disagreement on the underlying philosophy of certain measurements. A more severe difficulty is that most measures of cognitive development in infants and toddlers have very low predictive reliability, yet these are the measures that projects are most likely to collect and record.

The following summaries of evaluation data are addressed primarily to the issue of whether projects make measurable contributions to cognitive development or to subsequent school performance, or to both.

Developmental Day-Care Centers

Generally, reviewers feel that while participation in developmental day-care centers by infants and toddlers does not prove detrimental to children, neither does it enhance long-term development. White et al. write of such centers:

> We found no reports of measurable harm .... The conclusion, then, is that the vast majority of day-care programs implemented within the limits of the federal and state regulations appear to be neutral in their effects on human development, insofar as they can be evaluated by existing techniques.[15]

Bronfenbrenner's review comes to essentially the same conclusion, but is more sharply focused for policy purposes. Bronfenbrenner

poses the possibility that even if most preschool group projects have little or no positive effects, if intervention had been started at earlier ages or if children had continued in the program for more years, effects might have been positive. However, he concludes (p.18):

> Neither longer nor earlier exposure to group intervention produces greater effects.[16]

White arrives at the same position:

> Although there has been a general belief that the success of preschool projects would be increased if the age of intervention were lowered, there is currently little concrete support for this belief.[17]

The centers studied in these reviews varied greatly in their costs, services, and philosophies, and in the day-to-day experiences of the children. They ran the gamut from untrained to highly trained staffs, and from units of 6 to 200 children. Despite these differences, we must stress that the centers are relatively undifferentiated by any available measurements of positive or negative effects.

Intensive Intervention Centers

Although intensive intervention centers usually keep impressive evaluation records, too frequently they do not do longitudinal studies of participating children once treatment has stopped. Some generalizations seem possible, however. White et al. see some intensive, high-cost models as exceptions to the generalized failure of preschool projects to effect measurable differences. Surely the most outstanding of these is the Milwaukee project for children of mentally retarded mothers. Although both participant and control children were equally "at risk", the mean IQ of the participant group was found to be 23 points over the control group, and this IQ difference seems to have been maintained through entrance to school.[18] The project also provided educational and vocational services to the mothers of participating children, but this feature of the program was less stressed.

The clear-cut features of the Milwaukee project help to bring a number of political and educational issues into sharper focus. First, although the Milwaukee project has not released exact cost figures, a reasonable estimate places the per pupil costs at $6,000 to $10,000 per year. This means a total cost of between $36,000 and $60,000 per child before school entry. This is more money than the remaining 12 years of elementary and secondary formal education will cost. The feasibility of instituting such projects on any wide basis is severely hampered by these cost factors, as well as by the unavailability of appropriately trained personnel, and it does not appear that providing some portion of these services (at a reduced cost) results in the same proportion of benefits to children.

Second, it is imperative to recognize that the participating children were in the intensive intervention center during most of their waking hours from the age of four months to six years. The social wisdom of such procedures must be carefully considered. In cases of such intensive care, the socialization of the child has been almost completely removed from the child's family and placed in the hands of individuals from a very different social and professional class. The implications of such a situation are obviously broad but little understood.

A third issue raised by the Milwaukee experience is whether or not such intensive treatment is necessary. Children in the control (nonparticipant) group, of the same ages and from similar family backgrounds (i.e., children of mentally retarded mothers), tested at a mean IQ of between 92 and 95. This is well within the "normal" range and suggests that perhaps the target population was far less "at risk" than was supposed. If this is indeed the case, on what basis do we justify spending huge amounts to raise IQ scores to 127?

A fourth issue of potentially great import is that raising IQs may not produce lasting changes in achievement patterns. This issue is discussed in the following section.

Parent-Training Intervention Projects

Many of the parent-training programs (both research and support) have produced impressive evaluations. Those research models with the best controls report substantial IQ gains (as much as 20 points), and a portion of these gains sometimes appears to have been retained through school entry. Secondary benefits are also claimed in improved family health, parent employment, and sibling school performance. A principal asset appears to be that such projects cause some lasting improvement in the family itself, in the home environment of the child, and in the family's general attitudes toward education.

The most detailed review of parent-training programs is Bronfenbrenner's study of three highly controlled research models for which longitudinal data were kept. He concludes from his analyses that programs of parent training can be an effective means of raising IQ scores of impoverished children, provided that the following two conditions are met:

- Such intervention training must be instituted during the very early years (birth to two).
- The project must concentrate specifically on improving the cognitive and emotional quality of the parent-child (usually mother-child) interaction.

He points out, however, that parent-training intervention programs for preschool age children (age four to five) are substantially less effective than those for very young children.

Projects that attempt to combine parent training with a professionally staffed preschool are not as effective as those that concentrate only on parent training. The presence and role of the professional teacher appear to undermine the effectiveness of the parent training.

Federal programs that have adopted some form of the parent-training model also have reported favorable results. Home Start, Parent-Child Centers, and Parent-Child Development Centers have all reported moderate to high cognitive gains, although these programs are apparently less effective than the controlled research projects discussed above. The usual difficulties of overgeneralized and rather vague evaluations also exist for these programs.

The translation of research models to broad public programs has apparently reduced the effectiveness of the model, although perhaps not critically.

Two notes of caution must be raised. First, we must question whether parent-training programs can ever be successfully implemented on a large scale. The results of the research models appear to be fragile; apparently even small changes drastically reduce resultant IQ gains.[19] This must cause us to be highly skeptical of the ability of parent-training models to survive the rigors of broad implementation and "community adaptation" that characterize federal support programs.

Second, we must question whether "basic intelligence" is the underlying issue in compensatory education. Bronfenbrenner, in connection with a particularly effective parent-training model, noted that subjects in this study had demonstrated substantial IQ gains. Nevertheless, Bronfenbrenner pointed to:

> the failure of achievement test results to parallel the substantial differences in IQ [which] were still evident for ... subjects when they entered first grade.[20]

At present we can only speculate, but there are increasing indications that basic intelligence is not the single underlying issue in compensatory education. The failure of practically every compensatory education project to sustain achievement gains for disadvantaged children after active "treatment" has been stopped suggests that each year the advantaged child

learns specific subject matter from his nonschool environment which the disadvantaged child does not. This additional learning is reflected directly in differential school achievement. Indeed, a content knowledge differential incurred each year would go far toward explaining why IQ gains alone do not ensure improved school performance.

Conclusions

To synthesize what is known about various infant and toddler projects into some helpful policy framework, it may be worthwhile to make some gross comparison of costs and effects, as in Figure 4.

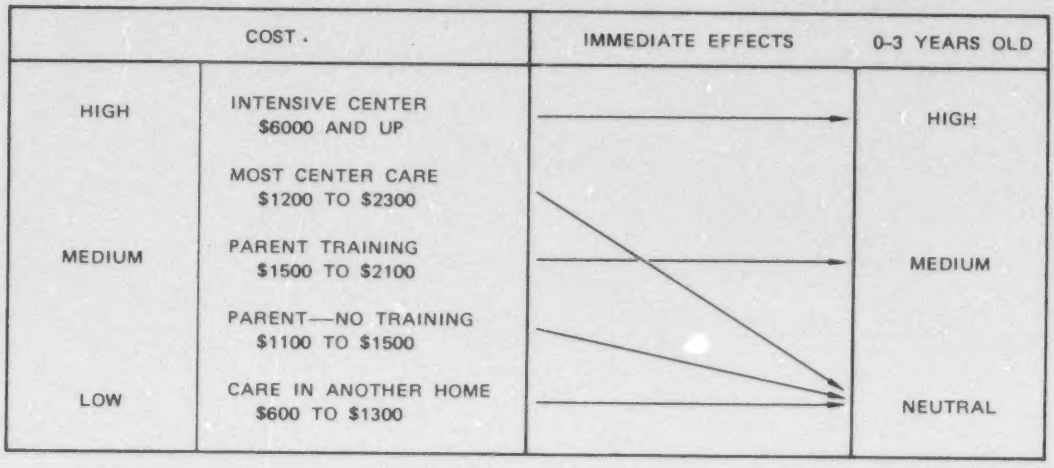

FIGURE 4 INFANT AND TODDLER PROJECTS BY COSTS AND EFFECTS

Two settings are generally low in cost: care in another's home and care in the child's own home. That they are felt to show neutral effects is in keeping with the conclusion of White et al. that "day care meeting some carefully considered standard of basic adequacy will not be detrimental to children's development generally."[21] These two settings seem to provide adequate, unharmful day care for young children at minimal cost, but do not seem to have any beneficial effects either.

The third option, parent training, is medium cost and seems to result in some moderate cognitive benefits for children and perhaps some moderate personal benefits for the family. The next option, center care, is high-cost but appears to have only neutral effects on participating children (i.e., they provide some very short-run cognitive benefits that seem to wash out upon school entry). Finally, intensive center care of the Milwaukee project type is extremely high in cost, but also returns fairly high cognitive benefits, at least in terms of IQ gains retained beyond school entry.

All five infant and toddler settings apparently share one characteristic--none seems able to ensure that the child from an impoverished, minority family will achieve greater success during his formal school years.

Summary

Early childhood education programs have received more attention and more detailed evaluation than almost any other federal social program, although the hundreds or thousands of separate project and program evaluations are not of uniformly high quality. This area may be unique, however, for the high quality of analytical attention that has been given to these evaluations. Four of the most comprehensive of these analyses have been used as the bases of our study of the child benefits to be derived from preschool and infant educational interventions. These four analyses are remarkably consistent among themselves and over time, a feature that increases our confidence in the following summary statements:

- Preschool educational projects that are not built around coherent and structured sequences of learning activities have little or no independent effect on the cognitive abilities or subsequent school progress of participating children.

- Preschool projects that implement a thoroughly planned sequence of learning activities--especially those we have discussed as preacademic--may have a moderate to high independent effect on the short-term cognitive abilities or applied skills, or both, of participating children.
- No form of preschool educational participation has shown lasting improvement in the long-term learning abilities or skills of participating children independent of special attention given after school entrance.
- Long-term (i.e., several years) participation in intensive intervention center research projects has raised the IQs of participating children significantly. Such projects are enormously expensive, however, and raise serious sociological issues.
- Earlier or longer participation in educational intervention projects does not effect greater benefits, nor does it produce more lasting cognitive improvements for participants.
- Parent-training intervention projects for the families of disadvantaged infants and toddlers seem to produce a marginal improvement in the immediate quality of life for participants. Some such projects also produce short-term cognitive gains. Lasting, independent, cognitive changes for participating children have not been adequately demonstrated.
- Even well-structured and effective projects lose much of the their efficacy when generalized into large-scale programs to be implemented at secondary sites.

V SUMMARY AND POLICY CONCLUSIONS

Reviewing the Assumptions

Since the mid-1960s, the federal government has made substantial and increasing investments in the area of preschool services. In addition, recent initiatives (such as H.R. 1 of 1972,* H.R. 15882 of 1974, S. 626 H.R. 2966 of 1975,† and P.L. 93644‡) have proposed major increases in the level of federal involvement. The form of services that has benefited most from federal involvement is center care for children under age six, and most of the recent proposals similarly favor the development of professionally run center projects over the expansion of other forms of day-care service, such as at-home care or family-group care.

The wisdom of increased federal support for preschool services in general and center facilities in particular assumes the validity of a small number of basic assumptions. Our task in this study was to review existing evidence regarding the validity of the three central assumptions listed below. Each statement is followed by our conclusions.

The first assumption under examination holds that there is an overall shortage of day care for preschool children and a shortage of preferred forms of service (especially center care) that will not be corrected through normal market mechanisms. Our review led us to the following conclusions:

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*H.R. 1 dealt with day-care deductions and welfare eligibility.

†Child and Family Services Bill.

‡Head Start-Follow Through Act.

(1) The current national supply of day care for preschool children is approximately adequate to current demand, although disparities may exist at the local level and the delivery system may operate poorly.

(2) Most families in all income groups choose to have preschool children cared for in their own homes, by relatives or friends, or in family group care provided by relatives or neighbors.

(3) Both new entrants to and long-term participants in the job market appear to be able to provide adequate care for preschool children.

(4) Contrary to expectations, the supply of at-home care has expanded in response to the needs of an expanding women's labor force.

(5) No significant economic barriers to market entry exist except those imposed by effective demand. Local regulations, lack of information, and conflict among funding agencies may hamper local market adjustment, however.

(6) The existing market in custodial services for preschool children appears able to meet effective demand during the next decade without substantial federal intervention.

(7) The biggest problem for individual families may be the considerable time and effort involved in locating care, rather than the availability, cost or quality of the care.

The second assumption under examination holds that the present day-care market is inequitable for low-income families, who cannot exert their preferences because of the cost and limited supply of certain types of care (especially center care). Our review led us to the following conclusions:

(8) Most low-income and/or minority families make approximately the same choices about day care as do middle and upper-income families. They choose to have preschool children cared for in their own home by friends or relatives, or in conveniently located family group-care situations provided by relatives or neighbors.

(9) The supply of at-home care has expanded in response to an expanding woman's labor force among low-income families.

(10) The increased utilization of at-home care may actually represent a comparatively "expensive" choice for low-income parents because of the loss of income of the family member who provides unpaid child care. The continued choice of this option may imply that at-home care is a much desired choice for these families.

(11) Because of the size and form of current federal subsidies, the market structure for child services may create far more compelling incentives for low-income families to use center care than for middle-income families to use center care. This may be a principal reason why use of center care by low-income families is higher than use by high-income families.

(12) About 15 to 20 percent of low-income families now use or would like to use center care. There is some evidence to suggest that this percentage would not be substantially increased by providing additional information or assistance in locating available center care.

(13) The existing national supply of center care appears adequate to meet current demand by low-income families, although there may be local disparities.

The third assumption under examination holds that providing better preschool experiences, particularly in the form of early childhood education programs, is indispensable to ensuring children from low-income families against later school failure. Our study of existing evaluations and reviews of such programs led us to the following conclusions:

(14) Most preschool education projects have little or no independent effect on the cognitive ability or the subsequent school progress of participating children.

(15) Some highly structured preschool education projects have had a beneficial short-term effect on the skills or abilities, or both, of disadvantaged preschool children.

(16) Some parent-training intervention projects have had a beneficial short-term effect on the abilities of infants and toddlers and on the immediate quality of their lives.

(17) Even projects that have demonstrated high short-term effects are unreliable when generalized into models for broad-scale programs.

(18) No known, broadly implemented treatment or preschool experience can ensure children from low-income families against later school failure or have any lasting effect on cognitive abilities or skills of these children, independent of later interventions.

To summarize our findings: We find no evidence of a current or impending overall shortage of preschool services, particularly of center care; low-income families do not appear to suffer inequities in the costs or distribution of care in general and center care in particular; and we find no evidence of long-term child benefits that would justify a large, immediate increase in federal expenditures for custodial or educational services for preschool children. On the basis of current evidence, the following policy conclusion appears to be justified:

Conclusion 1: Present proposals for massive increases in the present system of federal support and incentives for day-care centers do not reflect any clear and present national need.

We do not intend to imply that the current system of day-care services for children is entirely satisfactory. Indeed, there are obviously a number of problems in this system, some of which may be quite serious. For example, the most pressing problem for individual families may be the lack of thorough and realistic information at the local level about both formal and informal facilities. This and other problems are unlikely to be solved, however, by simply raising the level of national expenditures while retaining the present structure of support and incentives.

Adjustments

Our examination of the evidence leaves us with the impression that the current set of federal subsidies for preschool services creates a hodgepodge of incentives that vary by income level and type of care utilized, and are not obviously in the public interest as measured by either parental desires or child benefits.

Conclusion 2: Adjustments should be made in the present system of federal subsidies and incentives for preschool services so that the resultant system would be more able to:

- Provide the same profile of incentives for families of all income levels.
- Respond to individual family choice in the style and setting of day-care services.
- Reflect a realistic assessment of the value of currently demonstrated child benefits from preschool experiences.

In support of this task, the following studies seem necessary.

Present Federal Impact--The actual scope of present federal impact on the supply and distribution of preschool services is only vaguely understood. Most accountings consider only major programs within HEW, which clearly understate the federal presence and distort subsequent policy analysis. Estimating the dollar impact of the multitude of supports available through other federal agencies will be a difficult but important task.

It is equally important to assess how these supports and subsidies affect the market structure for preschool services. Such an assessment should consider not only the total investment level, but also factors such as the tone of enabling legislation and the style of agency administration. Our sense is that a thorough study of this type would reveal that federal support is larger and more pervasive than is generally recognized and that federal policies give more support to center-type services than to other forms.

Latchkey Children--In Section II we briefly discussed the problem of a small but growing percentage of preschool latchkey children. Obviously some changes should be made to provide adequate care for these children. Just as obviously, however, our data show that this problem

will not be solved simply by increasing the total supply of available care. Instead, some change is needed in the incentive system for families, including perhaps the civil and criminal statutes bearing on child care. An appropriate adjustment will need to be based on a study of why and where there are latchkey children and will need to be embodied in a legislative program that is targeted with unusual accuracy.

Research

Market Structure--Making sensible adjustments in the present system of preschool services will require a more detailed understanding of the effective market structure of day-care supply and demand. Most current estimates of supply account only for licensed facilities and do not attempt to estimate either the present or the potential supply of at-home care, or care that is bartered, or the "underground" market in family-group care. This is a serious oversight in view of the very large proportion of day care delivered in these ways. Most estimates of demand are based on inaccurate projections of the women's labor force and naive interpretations of survey data, or fail to account for important economic or demographic patterns.

A study of market structure should also include an examination of the extent to which families of different income levels face different markets for the same services. Beyond this, it should detail the differential effects of subsidies by income group, note whether subsidies are available for at-home care or family-group care, and assess the effect of the exclusion of payments to relatives under most federal programs.

The present methodological approach to estimating demand for day care has had two significant weaknesses that have severely hampered this and all other attempts to consider sensible policy alternatives. The first weakness is that studies generally consider only a single point on a

demand curve, i.e., demand is estimated by assuming specific income and price level. To estimate demand more effectively, it is necessary to consider the response of individuals to alternative price schedules. An analysis of the determinants of demand for day care should apply the technology of econometrics to a carefully constructed behavioral model of demand for day-care services. The second weakness is that studies of "preference" and "satisfaction" have made no attempt to focus on the specific attributes of a particular type of care that make it the preferred type of care. Until this level of analysis is performed, it will be extremely difficult to design attractive, cost-effective, and distinct options for day-care buyers.

> Conclusion 3: Specific, limited studies of the mechanics of family choice of day care options could be very useful to the policy process if undertaken immediately, completed promptly, and focused on the issues discussed above.

Educational Demonstrations

When a federal program receives consistently neutral or negative reviews, the standard response is to call for renewed study and evaluation and the development of new experimental approaches. This response implies that, by finding just the right model, the hopes for the program can still be justified, and it denies the importance of previous findings. However, early-childhood education has been searching for nearly ten years for a new approach that can immunize children from low-income families for life.

Although the evidence suggests that there is little to be gained in the short run from expanded research budgets, this does not necessarily mean that the present level of research expenditures should be decreased. Instead, some refocusing of effort and expenditure is necessary.

Conclusion 4: Continued heavy emphasis on the development of new early-childhood education models seems unwise. Over the next two to five years it is most unlikely that any model of early childhood education will be developed that will be substantially more effective than those developed to date.

What we do not need is a broad increase in research models or yet another evaluation review. After ten years we do know that the best early-childhood educational interventions will buy us:

- A modest improvement in the immediate quality of life for participants.
- A short-term improvement in cognitive abilities and skills for participating children.

What we need to do is decide whether early childhood education, as it is now and in comparison with other social or educational initiatives, is worth the cost and effort. If it is, then the next step is to learn how to make the best use of those existing models that have demonstrated some success at meeting the objectives above. Therefore we draw the following conclusion.

Conclusion 5: Some existing early-childhood education projects do appear to provide desirable secondary benefits to children and their parents, but these projects have been difficult to replicate. Some redirection of research funds is warranted to resolve the problems of replicating the best existing models of early childhood services in secondary sites.

We are not persuaded that even the best local projects or research models can have long-term effects on learning patterns in the absence of substantial special attention later on.* To the extent that short-term effects are recognized as such and are considered to be worth their high costs, however, methods must be developed for making the most of "successful" projects by implementing them in secondary sites.

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*It is also not clear that early intervention is necessary if this crucial later attention is adequately supplied.

The lack of successful model implementation has hampered the effectiveness of ESEA Title 1 and other large-scale federal programs. This problem is being dealt with in demonstration projects such as Follow Through and PIPs (Project Information Packages). This type of controlled and evaluated demonstration project seems much more likely to produce healthy, workable instances of early childhood education than could be obtained simply through the broader dissemination of information about "exemplary" projects or through undifferentiated budget increases.

Appendix A

IS THERE MUCH DEMAND FOR FEDERALLY FINANCED DAY CARE CENTERS?*

by Vivian Lewis

There is no doubt that some children need day care, and that the Federal Government in some cases is the best agency in our society to provide the funds. The common argument for the expansion of Federal day care programs is that there are over 5.6 million children under 6 with working mothers and less than 700,000 licensed day care slots to serve them.[1] It frequently is argued, furthermore, that deprived children, migrants, members of racial and linguistic minorities, and so on, would be better off in Government day care centers than in their own homes. There are some 3 million children under 6 in these categories. Another 1.8 million pre-school children are in families on welfare (Aid to families with Dependent Children, or AFDC). Naturally, there is great overlap among these categories, but one is left with the impression that many millions of children are in need of day care.

This reasoning fails to distinguish among children by age and by duration of need for care. Gross population statistics cannot be used to define a programmatic need. Children of different ages in varying family circumstances cannot be lumped into a single day care basket.

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*V. Lewis, "Day Care: Needs, Costs, Benefits, Alternatives," in Studies in Public Welfare, Paper No. 7, prepared for the Subcommittee on Fiscal Policy of the Joint Economic Committee, U.S. Congress (U.S. Government Printing Office, July 2, 1973).

A search for indicators of the real demand for day care leads to the consideration of interview responses given by nonworking mothers. The most frequently quoted of these studies, the 1970 Day Care Survey[2] is also most frequently misquoted: the responses of a national sample of nonworking mothers whose family income was under $8,000 showed not that 18 percent of them reported day care problems, but that day care problems were 18 percent of the total reasons given for not working. Since multiple responses and nonresponses were allowed, it is unfortunate that this misreading of the results is so widespread.

In fact only 13 percent of the Westinghouse respondents (10 percent of the total sample) cited problems in finding satisfactory or affordable day care.

The published reports of the Westinghouse study included no results from the question asked of nonworking parents in the household survey: "If satisfactory day care that you could afford was available, do you think you would look for work?"[3] It can be presumed that response data were considered unusable for some good reasons suggested by our analysis of the responses.[4] We learned that 38.7 percent of the mothers not now working indicated that they would look for work if satisfactory day care they could afford was available. However, mothers who had indicated on earlier questions that they had day care problems were only slightly more likely to plan to seek work than mothers who had indicated that they were not working on preference grounds.[5] Of the respondents who said they would seek work if satisfactory, affordable day care were available, 22 percent had cited day care problems in response to earlier questions, and 18 percent had indicated they they were not working on preference grounds.[6]

Similarly peculiar results arise in the analysis of responses of women who said they are planning to seek work within the next year. This subgroup (compared to women already seeking work and those not planning

to seek work) was most enthusiastic about seeking work if affordable, satisfactory day care were available. However, that is not too surprising, considering that they already had indicated that they wanted to seek work. This group was far more concerned with finding satisfactory day care than with finding affordable day care.

Explaining these results, it can be argued that the subset of non-working mothers with day care problems and the subset of mothers who prefer not to work in fact overlap more than the published Survey results indicate. Similarly, the subset of mothers planning to seek work within the next year and the subset of mothers who would seek work if day care were available also overlap. In the first case, day care problems may be a rationalization for preference reasons for not working which are perceived by respondents as not socially acceptable. Secondly, women who are not working or planning to work may have decided to remain at home because of day care problems or their perception of possible day care problems which they perceive of as preferences for remaining at home. When offered a hypothetical solution to their day care problems, their preference for remaining at home turns out to be weak in many cases.

Women planning to go to work during the next year were doing so despite their perceptions of day care problems, which more often involved lack of satisfactory rather than affordable care, although these two response groups may overlap. Whether they already have made tentative day care plans,[7] or they are confident (or overconfident) that they can solve their day care problems is unknown. On the other hand, providing day care they can afford but which may not be wholly satisfactory may cause these women to plan to seek work. Or these women may have selected themselves to go to work because they can afford more money for day care, or because they are less troubled by cheaper forms of day care, or because they are less concerned with their children, or bored with child-rearing, or convinced that they are inadequate child-rearers.[8]

In two other recent studies, families potentially eligible for assistance under welfare reform proposals were surveyed as to their day care needs. One study surveyed families in Vermont potentially eligible or nearly eligible for the family assistance plan (FAP as embodied in H.R. 16311, 91st Congress). Thirteen percent of the entire low income population of mothers who were unemployed or working in the home said they would seek work if day care were made available.[9]

Another survey, the first in a longitudinal series, was carried out for a national sample of potential recipients of benefits under the first FAP proposal, which for our purposes corresponds quite closely to eligibility for FAP as proposed in H.R. 1. The survey of "poor" (that is, FAP-eligible), unemployed, nonmarried mothers (single, widowed, divorced or separated) revealed that 64 percent of the black women and 68 percent of the white women would need "child care arrangments to go to work." At the same time, 81 percent of the black women and 88 percent of the white indicated that they intended to seek work in the next 12 months.[10] Of the total black survey population, 5 percent of the unemployed poor (and 6 percent of the nonmarried poor) said they would accept a hypothetical job offer "if child care was satisfactory"; the responses for whites were similar.[11]

The apparent disparity of responses (64 percent "need child care arrangements to go to work," but 6 percent would accept a job "if child care was satisfactory") in the same survey population is an indication of the unreliability of using the response rates to define the day care needs of the group. It also shows the difficulty of using opinion-poll type surveys which attempt to predict future behavior.[12]

Studies of day care needs of AFDC mothers show that (according to recipients or their social workers) 27.6 percent of welfare mothers were not referred to manpower agencies for jobseeking or training because they are "required in home because of the age or number of children" and

another 3.7 percent do not have "adequate child care arrangements." The combined total comes to nearly one-third of the mothers on AFDC.[13] As long as the welfare recipient and her social worker are convinced she is needed at home (under current WIN rules in the case of families with children under 6), she is excused from the work and training requirement but may volunteer. Thus, even if there are other barriers to her employment, she is not obliged to cite them. Therefore, the responses indicating that one-third of the welfare population need child care are of dubious value, since other job barriers are often present but unreported. The provision of day care facilities may be a necessary condition for these women to go to work (which is arguable), but it is not a sufficient condition. Day care problems may not be the most important reason for not working.[14]

It simply cannot be assumed that there are no other barriers to keep these women from getting jobs should day care be provided them. The unemployment rate is not very encouraging; the female unemployment rate is less so; and the black female rate and the rate for women under 25 is disastrous. Thus, even if all respondents of these polls were to seek jobs and day care were provided, they would not necessarily find jobs, especially jobs which paid enough to cover day care costs or which were otherwise desirable to the women. Benefit loss rates reduce the value of a job to welfare recipients anyway. For example, in New Jersey a welfare mother of three who found a job paying $900-$1,000 per month would have a net gain, after taxes, reduction in welfare benefits, and payment of work expenses, of only about $200 per month.[15] Among the welfare population, there may be psychological, health, and other difficulties which keep recipients from seeking work, as well as their frequent lack of education, experience, or marketable skills which reduce their attractiveness to employers. It can be argued that most respondents in the cited studies, including Westinghouse-Westat, would not or could not work even

if they were provided with day care.[16] Furthermore, even those who worked might not use subsidized day care because of preference for other free arrangements, as will be seen later.

For the population generally, an increase in net wage resulting from subsidized child care would lead women to work fewer hours than they would without subsidized care.[17] For families whose income is boosted by the provision of subsidized day care, the normal response would be to adjust to higher incomes by the woman working less. For the welfare population, on the other hand, it is difficult to prove that labor force participation would either rise or fall, since it is difficult to establish that this group would treat subsidized day care as a wage subsidy at all, given the following observation.

> Since studies show that the amount paid for private day care decreases as income decreases, the AFDC population probably pays the smallest amount for private day care of any group--most probably, they pay nothing at all. Thus it is unlikely that this population would consider a subsidized day care program to be a "wage subsidy." Therefore it is just as unlikely that they would respond by increasing their labor force participation.[18]

Moreover, welfare recipients are not typically employable at high wages. Many would still be eligible for welfare supplementation. Thus, one study estimates that the provision of preschool day care to welfare recipients would reduce their number by only 2.5 percent, and the number of working poor families (eligible under H.R.1) would be reduced by approximately 8 percent.[19] To repeat, subsidized day care is probably not a sufficient condition for these women to go to work.

Unfortunately, the legislative discussion of Government programs has attempted to assess the need for day care in centers by relating existing center places to "unmet needs" or by defining the programs the Government is supposed to subsidize exclusively to formal institutions called centers. However, middle class and professional women, who presumably can afford

the kind of fees proprietary centers offering enriched programs charge, nonetheless often seem to prefer family day care arrangements.[20]

Their preference for family-type arrangements (in their home or another person's) appears to be shared by the less affluent segments of the population. The Vermont survey found that 51 percent of the sampled low-income mothers working outside their homes either did not use available center day care or stated that they would not use such facilities if they were made available. Something like 75 percent of the respondents did not or would not use day care centers because they are satisfied with their current arrangements.[21]

There are other indications that many working mothers and currently nonworking mothers find day care centers unattractive. A certain amount of all the difficulty may be related to factors of cost and distance, which will be discussed in other sections of this paper. But, part of the problem may simply be that many people do not like such institutions for their children. Moreover, child care given in their own home can be combined with light housework on the part of the caregiver, thus saving the working mother time and energy.

Testing the Vermont results against data from other parts of the country, the same sort of preferences appears to apply elsewhere. In upstate New York a poll of former welfare mothers (some of whom were working and some not) were asked, "if you could have any child care arrangement, where would you prefer to have it?" Only 17 percent preferred a regular day care center. This compares with 10 percent who actually used centers. On the other hand, 67 percent of respondents preferred care in their own homes and 11 percent in another person's home.[22]

Another indication that centers may not have widespread popularity is found in the results of the Gary, Indiana, income maintenance experiment. Only one out of 90 eligible parents accepted totally subsidized

(free) day care for their preschoolers, despite the fact that two letters were sent, one telling them of the service, and the second stressing that it was free.[23]

A recent study of the child care arrangements made by mothers in training programs highlights the importance of informal and often non-monetary arrangements for children under 6. Respondents were enrolled in work training under three Government programs and one program, JOBS (Job Opportunities in the Business Sector), run jointly under Government and private-sector auspices. One of the Government programs, WIN (Work Incentive) was open to welfare recipients only, and provided day care subsidies of up to 100 percent of the cost of care in almost every State. The other two Government progams, MDTA (Manpower Development and Training) and CEP (Concentrated Employment Program), provided limited day care services or funds, while half the contracting employers under JOBS helped provide temporary child care arrangements (although none were reimbursed).

The main difference between these respondents and those in the Westinghouse-Westat sample of families with incomes below $8,000 appears to have been an even greater choice of care in the mothers' homes, possibly due to a lack of information and available centers. Because poverty households are particularly subject to theft, the mothers may have wanted their homes looked after as well as their children. The other striking fact about the arrangements made is the small effect social service assistance had in arranging and financing day care for some respondents. WIN trainees in all but one State theoretically were eligible for subsidized day care, and for fully subsidized day care in half the States; nonetheless they used centers only slightly more often than other program trainees. Disadvantaged or welfare-recipient trainees, like the population generally, use informal arrangements in their own homes or the homes of others (friends, babysitters, relatives) rather than day care centers,

even if the latter are free and available. They do not leave their children to look after themselves (none under 6 were without supervision in the sample population).[24]

Cost problems have hitherto been excluded rather carefully from the discussion. In the studies in Indiana, Vermont, and upstate New York, an attempt was made to leave out the cost factor, since day care was to be free. In the WIN program, when free day care was theoretically available, the women did not behave very differently than when there were no subsidies as in the case of disadvantaged persons receiving job training under other programs.

Costs obviously do play a big role in parental preference for in-home care, however. The Massachusetts Early Education Project reported that 75 to 90 percent of all parents might be expected to use free, nearby, or in-home child care of the "right" kind, at hours corresponding to their work day. Conversely, fewer than 1 percent of all parents say they would use well-staffed child care for which they must pay full costs.[25] But the validity of such surveys is questionable. The additional factors of hours and location will be discussed elsewhere.

Another indication that demand for center care is not high is the size of waiting lists. Center waiting lists include 124,000 children, which amounts to about 16 percent of total day care enrollment in the institutions studied. The figure was very much higher for licensed nonproprietary (nonprofit) centers, where the waiting lists amounted to 45 percent of the enrollment. Some children may be on more than one list. On the other hand, there are some 63,000 unfilled day care slots, half in nonproprietary centers.[26] Another study found that 47 percent of nonprofit centers had openings and 73 percent had waiting lists.[27] For profitmaking centers, 54 centers had openings and 40 percent had waiting lists. The average number of openings in day care homes considered by the volunteers who did the polling for the survey to be of poor quality

was 6.3, for those considered fair was 4, for those considered good was 3, and for those considered superior was 2.6.[28] If proof were needed, parents can judge the quality of care quite well (or at least their judgments correspond with those of the volunteers doing the study) and tend not to send their children into poor day care.

A final point in discussing demand is that it would be difficult and inequitable to provide day care facilities financed by the taxpayer only to children whose mothers had just entered the job market. Thus, while we object to opinion polls indicating a huge need for day care subsidies or a need for day care slots by overstating the demand for new heavily subsidized slots, the polls understate the subsidies required to pay for families which currently make their own arrangements. Any new program would have to provide slots for children whose mothers already do work, although probably in smaller proportion than for children whose mothers do not now work since the working women would have more reason to remain with current arrangements than would new job entrants.

In summary, while there is some unmet demand for center care, the bulk of day care in this country is now being provided in homes. Examining the evidence, we can state that data about vacancies and waiting lists for center care are inclusive, and that estimates of the number of nonworking mothers of preschool children in need of day care to work (as estimated by themselves) appear to be highly contradictory and at variance with studies of how these mothers do in fact behave when day care becomes available. Of course, it is entirely possible that if free or heavily subsidized day care centers of good quality (and, therefore, quite expensive) were universally available, demand would rise to equal the supply. But this is a different question from how urgent the current need is for a large-scale, Government-subsidized day care center program, and has little bearing on how desirable such a program would be--both in itself and in relation to other pressing social needs.

FOOTNOTES FOR APPENDIX

1. U.S. Department of Labor, Bureau of Labor Statistics, Special Labor Force Report; Children of Working Mothers, September 1972 (Washington, D.C., 1972), p. 4; Committee on Education and Labor, Comprehensive Child Development Act, p. 6f. These sources sited for figures only. The arguments are all-pervasive.

2. Westinghouse Learning Corp. and Westat Research Inc., Day Care Survey--1970, prepared for the Office of Economic Opportunity, Evaluation Division (Washington, D.C., 1971). Unless otherwise stated, all citations are from Vol. I, Summary Report and Basic Analysis. Quoted figure on p. 174.

   This was a carefully researched study somewhat carelessly presented, above all in the failure to distinguish between the various samples which change from section to section. Hence misreadings like the one noted are likely. The cost data on centers which will be discussed later appear to be given extra validity by the use of weightings derived from the Westinghouse data to predict the costs of a type of exemplary center which was not included in the study, according to William R. Prosser of the Office of Economic Opportunity.

   However, the cost data on family day care homes are distorted by the method used to create a sample of such facilities. The sample was derived first of all by neighborhood canvassing, in which case little usable cost data were available from the survey. More comprehensive questions were put to family day care operators who were located by use of lists of day care facilities available. But, the family homes sample was generated by a size limit in defining centers or family homes (namely, whether fewer than seven children were enrolled), which may have skewed costs upward.

3. Ibid., II, Questionnaire E, p. 49ff, "Nonworking" question 11.

4. An analysis of the response to this question was prepared for us by Jack Ditmore and William R. Prosser of the Office of Economic Opportunity, for which agency the study was made. They are responsible for the numbers, not the analysis, which is the responsibility of the author. I am grateful for their assistance.

5. The questions relating to preference were: "I prefer not to work while children are young," and "I'm not interested in working."

6. Sample of nonworking mothers who answered "yes" to "Non-working" question 11, given earlier in this paragraph.

7. Once again it is regretable that the Survey failed to report the ages of the children of the surveyed parent.

8. A recent analysis has sorted out WIN mothers into two archetypical life systles, "modernizers" and "traditionalists," whose perceived need for day care and preference for work outside the home are vastly different. See Samuel Z. Klausner, The Work Incentive Program: Making Adults Economically Independent, prepared for the U.S. Department of Labor, Manpower Administration (Philadelphia, Pa., 1972). This distinction may apply to other women also.

9. State of Vermont Family Assistance Planning Unit and Mathematica, Inc., "Planning Papers," State of Vermont Family Assistance Plan, V (Princeton, N.J., 1972), p. 93.

   Vermont's State FAP would have corresponded quite closely to the H.R. 1 program. However, the respondents do not correspond at all to a national sample, given the strong local traditions in the State, the absence of large urban areas, and the small number of blacks.

   In addition, the sample suffers because FAP recipients who initially would have been required to work (those with children over 6) and also with those earning just over the FAP-income cutoff who accounted for most of the households surveyed.

10. The questions were asked of the same respondents. Jack A. Meyer and John K. Shea, Potential Recipients of Family Assistance Payments: Characteristics and Labor Market Behavior (Columbus, Ohio, 1972), p. 215f.

    On the other hand, 52 percent of the black mothers, and 46 percent of the white had worked for 6 months or longer in less than 10 percent of the years since they had left school, and 74 percent of the blacks and 71 percent of the whites had worked for 6 months or longer in fewer than 5 years since they had left school.

    This sample is divided carefully as to respondent's race, which is necessary because of the higher labor force participation by blacks in the United States, and because the sample was overrepresentative of blacks. The ongoing population surveys are continuing and the study will eventually have four to six interviews per respondent

over 8 years to draw on, in a sample divided by age and sex according to the census, and by race, poverty status and labor market experience according to survey data.

Despite these long-term goals, which will provide valuable material for many areas of the social sciences, the cited study is strictly cross-sectional, and not longitudinal.

11. Ibid., p. 82.

12. Political polls, like the Gallup poll, correct for this by asking respondents questions like whether they are registered, whether they know where their polling place is, whether they voted in the last election. Asking questions about previous job history may serve a similar purpose in these polls, but often is not done, and in any case is a less useful correlation with future behavior because peoples' family situations change so drastically.

13. U.S. Department of Health, Education, and Welfare, Social and Rehabilitation Service, National Center for Social Statistics, Assessments Completed and Referrals to Manpower Agencies by Welfare Agencies Under Work Incentive Program or AFDC Recipients (Washington, D.C., 1972), table 5. See also Lawrence Podell, Families on Welfare in New York City, Center for the Study of Urban Problems, City University of New York (New York, N.Y., n.d.).

    It has been argued that some of the mothers citing day-care need in fact do use informal arrangements currently, although they are unwilling to report them since they are used in order to earn income unreported to welfare authorities.

14. This arugment was well presented in Harold Feldman and Margaret Feldman, A Study of the Effects on the Family Due to Employment of the Welfare Mother, I (Ithaca, N.Y., 1972), pp. iv-v. The survey population was too narrow to provide indications of need, but the study contains some perceptive indications of problems with existing day care which often can be corrected by legislation, to be discussed later.

15. Roert I. Lerman, "Incentive Effects in Public Income Transfer Programs," in Income Transfer Programs: How They Tax the Poor. Paper No. 4, prepared for the Subcommittee on Fiscal Policy, Joint Economic Committee. U.S. Government Printing Office, Washington, D.C., December 22, 1972.

16. One study concludes that only the mothers in the Westinghouse survey population (under $8,000 income) would find work. For the

welfare or working poor families which the other polls use as samples, the employment rate would probably be lower. See Day Care Policy Study Group, Alternative Federal Day Care Strategies for the 1970s, submitted to Office of Economic Opportunity by Institute for Interdisciplinary Studies (Minneapolis, Minn., 1971-72), Final Report: Part I (1972), p. 50.

17. Based on a simulation using the March 1967, Current Population Survey data, from which a file was constructed of women living in the 97 largest standard metropolitan statistical areas. Ibid., Final Report: Part II (1971), Vol. 1, p. 194.

This analysis is of the behavior of women already employed, a group which may not correspond to women not now working. Ultimately only this sort of analysis can be taken seriously, given the limitations of opinion poll data.

18. Ibid., p. 202.

19. Day Care Policy Study Group, Alternative Day Care Strategies, pt. I, p. 50.

20. Mary Dublin Keyserling, Windows on Day Care, A Report Based on Findings of the National Council of Jewish Women (New York, 1972), pp.49, 152, 184. Theoretical discussion of what we know about day care often unfairly neglects the Keyserling study as being too "anecdotal." While the survey was not carried out by professionals, but rather by volunteers from the National Council of Jewish Women, and while it made no attempts to set up a representative sample, the very large number of day care situations which were viewed and judged in it makes it part of the material with which we must be concerned. The statistical tables included are probably of only marginal validity, particularly in the case of judgments on the quality of care, and less so in the case of fee data. The conclusions reached about the need for a massive Federal developmental program may be untenable. The arguments in favor of greater licensing and respect for licensed status are undermined by the data themselves. But nonetheless, this study tells us a great deal about what is happening in the real world. It provides the best data we have on truly bad situations which ought not to be ignored; it also provides some heart-warming stories about how, even in the absence of licensing, proper quarters, decent equipment and above all money, a warm-hearted care-giver without education, curricula, or even an idea of what the child-staff ratio is can give children good day care. See p. 128.

21. Vermont-Mathematica, Vermont Family Assistance Plan, p. 87. Children who do not receive care apart from their presence in school were excluded. The similarity of responses of respondents not using and not willing to use center day care offsets to some extent our objection to opinion poll data. The main differences in reasons given by the two groups of working mothers were in attitudes toward distances and costs, obviously of greater importance to parents who are not sending their children to an existing facility rather than to a hypothetical one. Of course, this survey has the weakness of pitting bird-in-hand against birds-in-bush.

22. Feldman and Feldman, Effects on the Family, I, p. 240.

23. Urban Institute, unpublished data. A study is being made of the causes of this nonutilization.

24. Camil Associates, Evaluation of Supportive Services Provided for Participants of Manpower Programs, prepared for U.S. Department of Labor, Manpower Administration (Philadelphia, Pa., 1972), p. 64.

25. Richard R. Rowe et al., "Summary," Child Care in Massachusetts: the Public Responsibility (Cambridge, Mass., 1972), p.8.

26. Westinghouse, Summary Report and Basic Analysis, p. 25. Nonprofit centers probably charge less and, therefore, would have longer waiting lists. Some children might be on several waiting lists, of course.

27. Centers may have openings and waiting lists at the same time.

28. No such breakdown was available regarding centers. Two-thirds of the homes reported that they had openings. Keyserling, Windows on Day Care, pp. 93, 145, 146.

Appendix B

COST AND SUBSIDIES*

To assist in understanding the structure of expenditures and the net price of day-care services we have developed the following mathematical representation, where

- m = marginal tax rate
- s = subsidy rate
- Y = adjusted gross income
- E = child care expenditures
- E_n = net child care expenditures
- P_n = net price
- $\hat{Y}$ = $Y - \$18{,}000$.

Case A (without subsidy):

$$E_n = \begin{cases} E - mE = (1-m)E, & Y \leq \$18{,}000 \\ E - m(E - \hat{Y}/2) = (1-m)E + (m/2)\hat{Y}, & \$18{,}000 < Y \leq \$18{,}000 + 2E \\ E, & \$18{,}000 + 2E < Y \end{cases}$$

$$P_n = \begin{cases} (1-m) \\ (1-m) + (m/2)(\hat{Y}/E) \\ 1 \end{cases}$$

Case B (with subsidy):

$$E_n = \begin{cases} E - mE - (sE - msE) = (1-m)(1-s)E, & Y \leq \$18{,}000 \\ E - m[E - (\hat{Y}/2)] - sE(1-m) = (1-m)(1-s) + (m/2)\hat{Y}, & \$18{,}000 < Y \leq \$18{,}000 + 2(1-s)E \\ E - sE = (1-s)E, & \$18{,}000 + 2(1-s)E < Y \end{cases}$$

$$P_n = \begin{cases} (1-m)(1-s) \\ (1-m)(1-s) + (m/2)(\hat{Y}/E) \\ (1-s) \end{cases}$$

*The structure of the federal day-care deduction functions as follows: For families with adjusted gross incomes to $18,000, the maximum allowable monthly deduction is $200 per month for one child, $300 per month for two children, and $400 per month for 3 or more children. This deduction gradually vanishes after an adjusted gross income of $18,000. The rate of deduction is equal to $(E - \hat{Y}/2)$. Furthermore, at the present time, Congress is considering a tax reform bill that includes a provision to increase the "vanishing" income level to $35,000.

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*See Figures B-1 and B-2 for subsidy schedules.

Table B-1

NET EXPENDITURE AND NET PRICE (WITHOUT SUBSIDY) OF $2,400 OF DAY-CARE SERVICES: MARRIED FILING JOINT RETURNS*

Income†	Marginal Tax Rate‡	Tax Saving	Net Expenditure	Net Price§
$10,000	$0.22	$528	$1,872	$0.78
11,000	0.22	528	1,872	0.78
12,000	0.22	528	1,872	0.78
13,000	0.25	600	1,800	0.75
14,000	0.25	600	1,800	0.75
15,000	0.25	600	1,800	0.75
16,000	0.25	600	1,800	0.75
17,000	0.28	672	1,728	0.72
18,000	0.28	672	1,728	0.72
19,000	0.28	532	1,868	0.78
20,000	0.28	392	2,008	0.84
21,000	0.32	288	2,112	0.88
22,000	0.32	128	2,272	0.95
23,000	0.32	000	2,400	1.00

*This expenditure level was chosen for analysis based on the findings of two studies [Department of Health, Education, and Welfare (1967) and ABT Associates (1971)] that estimated a desirable level of full-day center care at this amount.

†It is assumed that taxpayers with adjusted gross incomes under $10,000 do not itemize their deductions.

‡Based on Schedule Y, 1974 Federal Income Tax Forms.

§Refers to net price of $1 of child day-care expenditure.

Table B-2

NET EXPENDITURE AND NET PRICE (WITHOUT SUBSIDY) OF $2,400 OF DAY-CARE SERVICES: UNMARRIED TAXPAYERS, WHO QUALIFY AS HEADS OF HOUSEHOLDS

Income	Marginal Tax Rate*	Tax Saving	Net Expenditure	Net Price
$10,000	$0.23	$552	$1,848	$0.77
11,000	0.25	600	1,800	0.75
12,000	0.25	600	1,800	0.75
13,000	0.27	648	1,752	0.73
14,000	0.27	648	1,752	0.73
15,000	0.28	672	1,728	0.72
16,000	0.28	672	1,728	0.72
17,000	0.31	744	1,656	0.69
18,000	0.31	744	1,656	0.69
19,000	0.32	608	1,792	0.75
20,000	0.32	448	1,952	0.81
21,000	0.35	315	2,085	0.87
22,000	0.35	140	2,260	0.94
23,000	0.36	000	2,400	1.00

*Based on Schedule Z, 1974 Federal Income Tax Forms.

Table B-3

NET EXPENDITURE AND NET PRICE
OF $2,400 OF DAY-CARE SERVICES

Income	Subsidy Rate*	Subsidy	Unsubsidized Expenditure	Marginal Tax Rate†	Tax Saving	Net Expenditure	Net Price
$ 6,000	$1.000	$2,400	$ 000	‡	‡	$ 000	$0.000
7,000	0.860	2,064	336	‡	‡	336	0.140
8,000	0.795	1,908	492	‡	‡	492	0.205
9,000	0.730	1,752	648	‡	‡	648	0.270
10,000	0.665	1,596	804	$0.22	$177	627	0.261§
11,000	0.600	1,440	960	0.22	211	749	0.312
12,000	0.535	1,284	1,116	0.22	246	870	0.363
13,000	0.470	1,128	1,272	0.25	318	954	0.398
14,000	0.405	972	1,428	0.25	357	1,071	0.446
15,000	0.340	816	1,584	0.25	396	1,188	0.495
16,000	0.275	660	1,740	0.25	435	1,305	0.544
17,000	0.210	504	1,896	0.28	531	1,365	0.569
18,000	0.145	348	2,052	0.28	575	1,477	0.616
19,000	0.080	192	2,208	0.28	478	1,730	0.720
20,000	0.015	36	2,364	0.28	382	1,982	0.826
21,000	0.000	000	2,400	0.32	288	2,112	0.880
22,000	0.000	000	2,400	0.32	128	2,272	0.950
23,000	0.000	000	2,400	0.32	000	2,400	1.00

*The subsidy rate for families (of four) with incomes under $12,492 corresponds to the California State Fee Schedule. For families whose gross income, less $60, is less than 151 percent of the Minimum Basic Standard of Adequate Care (M.B.S.A.C.) the subsidy rate is 1.00.

†Based on Schedule Y, 1974 Federal Income Tax Forms, for married filing joint returns.

‡It is assumed that taxpayers with incomes under $10,000 do not itemize their deductions.

§This marginal decline in the net price of $1 of day-care expenditure is due to the positive effect of the tax saving resulting from itemizing deductions.

Table B-4

NET EXPENDITURE AND NET PRICE
OF $2,400 OF DAY-CARE SERVICES

Income	Subsidy Rate*	Subsidy	Unsubsidized Expenditure	Marginal Tax Rate	Tax Saving	Net Expenditure	Net Price
$ 6,000	$1.000	$2,400	$ 000	†	†	$ 000	$0.000
7,000	0.860	2,064	336	†	†	336	0.140
8,000	0.795	1,908	492	†	†	492	0.205
9,000	0.730	1,752	648	†	†	648	0.270
10,000	0.665	1,596	804	$0.22	$177	627	0.261
11,000	0.600	1,440	960	0.22	211	749	0.312
12,000	0.535	1,284	1,116	0.22	246	870	0.363
13,000	0.454	1,089	1,311	0.25	328	983	0.410
14,000	0.417	1,001	1,399	0.25	350	1,049	0.437
15,000	0.385	924	1,476	0.25	368	1,107	0.461
16,000	0.357	857	1,543	0.25	386	1,157	0.482
17,000	0.333	799	1,601	0.28	448	1,153	0.480
18,000	0.313	751	1,649	0.28	462	1,187	0.495
19,000	0.294	706	1,694	0.28	334	1,360	0.567
20,000	0.278	667	1,733	0.28	205	1,528	0.637
21,000	0.263	631	1,769	0.32	86	1,683	0.701
22,000	0.250	600	1,800	0.32	000	1,800	0.750
23,000	0.238	571	1,829	0.32	000	1,829	0.762

*For adjusted gross incomes, less $60, under $13,000 the subsidy schedule is based on California State Fee Schedule.

†It is assumed that taxpayers with incomes under $10,000 do not itemize their deductions.

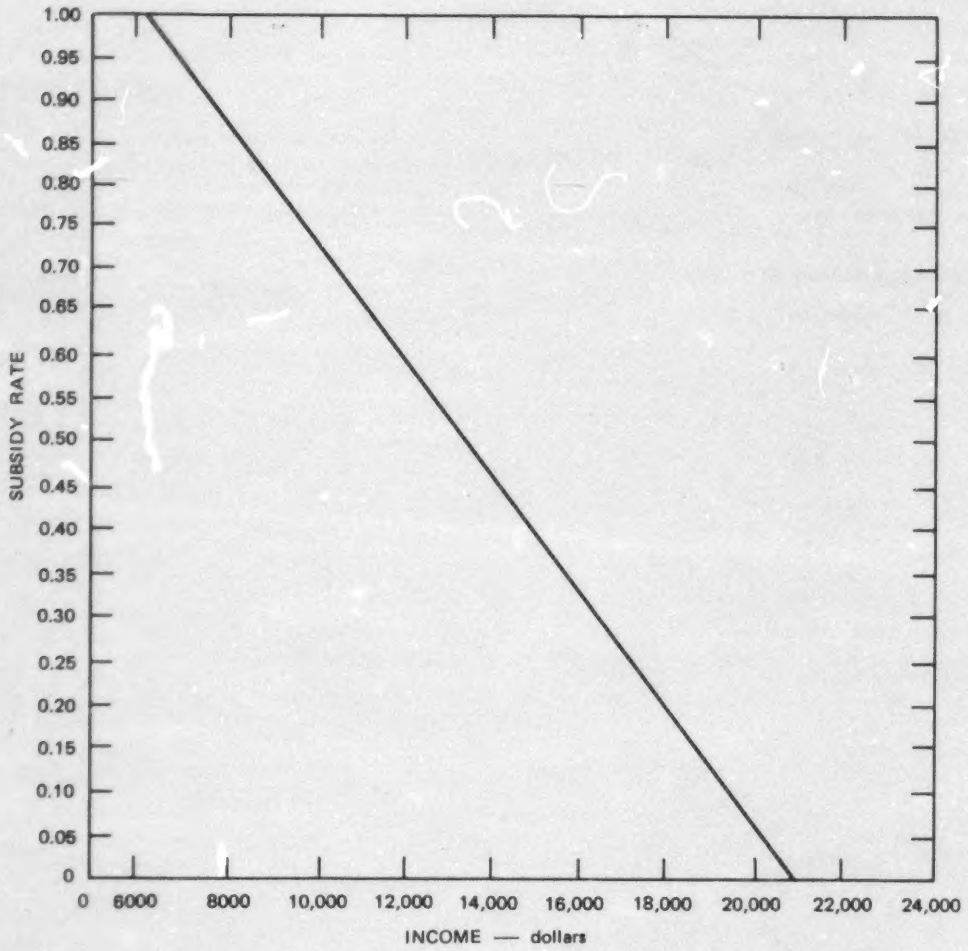

FIGURE B-1 LINEAR SUBSIDY SCHEDULE

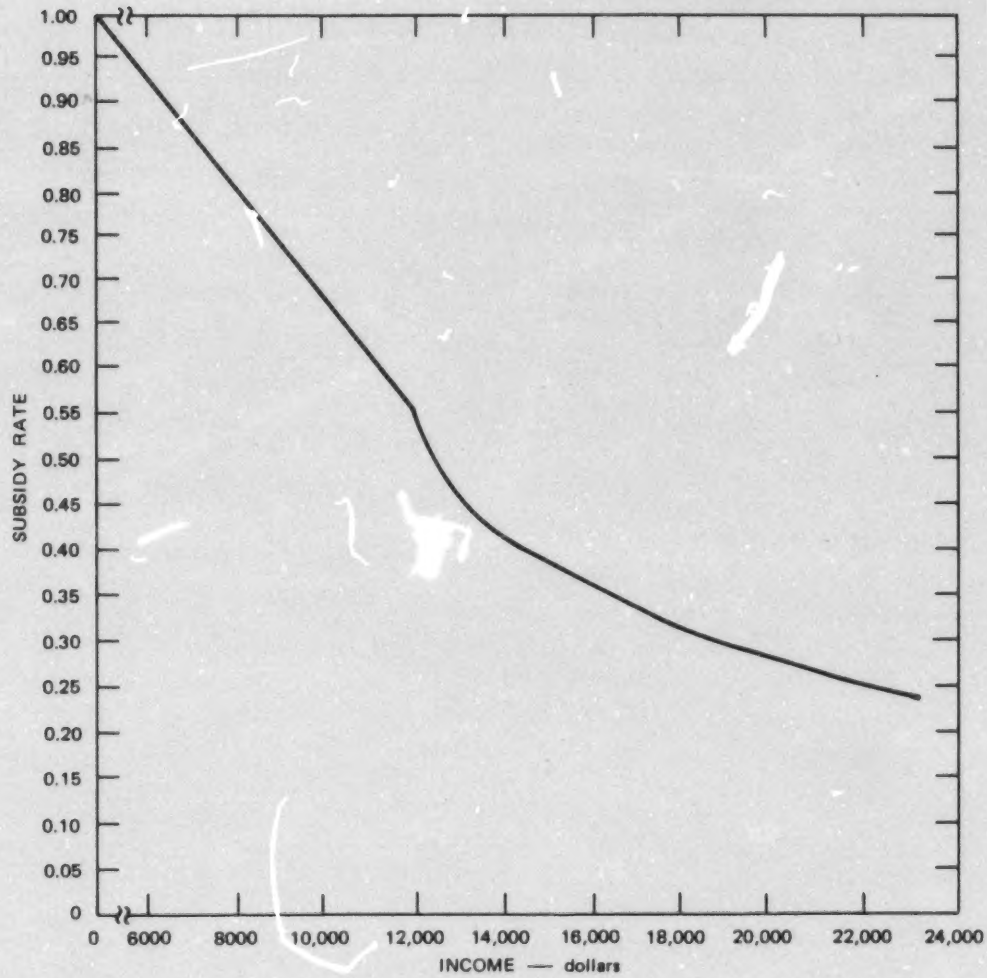

FIGURE B-2 NONLINEAR SUBSIDY SCHEDULE

REFERENCES

Section II

1. M. E. Rosenberg, "Early Childhood Education: Perspectives on the Federal Aid Office of Education Roles," pp. A3-A24, Educational Policy Research Center, Stanford Research Institute, Menlo Park, California (July 1972).

2. S. H. White et al, Federal Programs for Young Children: Review and Recommendations, Vol. 2, pp. 112-121, The Huron Institute, Cambridge, Massachusetts (1972).

3. V. Lewis, "Day Care: Needs, Costs, Benefits, Alternatives," in Studies in Public Welfare, Paper No. 7, pp. 119ff., prepared for the Subcommittee on Fiscal Policy of the Joint Economic Committee, Congress of the United States (U.S. Government Printing Office, Washington, D.C., 2 July 1973); "Federal Interagency Day Care Requirements," Code of Federal Regulations, Title 45, Subtitle A.

4. S. Low and P. G. Spindler, "Child Care Arrangements of Working Mothers in the United States," p. 13, U.S. Department of Health, Education, and Welfare, Children's Bureau (U.S. Government Printing Office, Washington, D.C., 1968).

5. Westinghouse Learning Corporation and Westat Research Inc., "Day Care Survey--1970," p. 187, Office of Economic Opportunity, Evaluation Division (U.S. Government Printing Office, Washington, D.C., 1971).

6. M. P. Rowe, "Economics of Child Care," p. 280, Hearings on S. 2003 before Committee on Finance, United States Senate, 92nd Congress 1st Session, 22-24 September 1971.

7. "Federal Interagency Day Care Requirements."

8. Lewis, op. cit., p. 124.

Section III

1. R. L. Shortlidge, Jr., in C. L. Jusenius and R. L. Shortlidge, Jr., "Dual Careers: A Longitudinal Study of Labor Market Experience of Women," Vol. 3, p. 3.38, Center for Human Resource Research, The Ohio State University, Columbus, Ohio (1975); Low and Spindler, op. cit., p. 25.

2. Low and Spindler, op. cit., p. 25.

3. Shortlidge, op. cit., p. 3.38.

4. U.S. Department of Labor, Wage and Labor Standards Administration, Women's Bureau, "Facts About Day Care," p. 1 (U.S. Government Printing Office, October 1969).

5. Westinghouse and Westat, op. cit., p. 25.

6. Bank of America, "Proprietary Day Care," in Small Business Reporter, Vol. 2, No. 8 (1973).

7. J. R. Elliott, Jr., "The Children's Hour," pp. 3ff., in Barron's (5 July 1971).

8. Louis Harris and Associates, "A Survey of Women on Their Role in American Society," p. 24, (Louis Harris and Associates, New York, 1970); Westinghouse and Westat, op. cit., pp. 49ff.; State of Vermont Family Assistance Planning Unit and Mathematica, Inc., "Planning Papers," p. 93, in State of Vermont Family Assistance Plan V, Princeton, New Jersey (1970).

9. Lewis, op. cit., p. 113.

10. U.S. Department of Labor, Women's Bureau, "Working Mothers and the Need for Child Care Services" (U.S. Government Printing Office, Washington, D.C., September 1968).

11. U.S. Department of Labor, Women's Bureau, "Twenty Facts on Women Workers" (U.S. Government Printing Office, Washington, D.C., June 1974).

12. U.S. Department of Commerce, Social and Economic Statistics Administration, "Population Estimates and Projections," p. 1, Series P-25, No. 521 (May 1974).

13. U.S. Bureau of the Census, "Projections of the Population of the United States by Age and Sex: 1972 to 2020," Current Population Report, Series P-25, No. 493 (U.S. Government Printing Office, Washington, D.C., 1972).

14. Shortlidge, op. cit, Table 4.1, p. 4.6.

15. Westinghouse and Westat, op. cit., Introduction; Low and Spindler, op. cit., pp. 24-26.

16. U.S. Department of the Treasury, Internal Revenue Service, "Child Care and Disabled Dependent Care," Publication No. 503 (U.S. Government Printing Office, Washington, D.C., 1973).

17. A. M. Rivlin, "Child Care," in Setting National Priorities, the 1973 Budget, C. L. Schultz et al., eds., pp. 277ff., The Brookings Institution, Washington, D.C. (1972).

18. Camil Associates, "Evaluation of Supportive Services Provided for Participants of Manpower Programs, p. 64, prepared for U.S. Department of Labor, Manpower Administration, Philadelphia, Pennsylvania (1972).

Section IV

1. M. S. Stearns, "Report on Preschool Programs: The Effects of Preschool Programs on Disadvantages Children and Their Families," p. 163, U.S. Department of Health, Education, and Welfare, Office of Child Development (U.S. Government Printing Office, Washington, D.C., 1971).

2. Stearns, op. cit., pp. 13-18.

3. U. Bronfenbrenner, "A Report of Longitudinal Evaluation of Pre-School Programs," p. 18, U.S. Department of Health, Education, and Welfare, Office of Human Development (U.S. Government Printing Office, 1974).

4. White et al., op. cit., Vol. 2; J. S. Bissell, "The Cognitive Effects of Pre-School Programs for Disadvantaged Children," p. 36, doctoral dissertation, School of Education, Harvard University, Cambridge, Massachusetts (1970); C. Bereiter, "An Academic Preschool for Disadvantaged Children: Conclusions from Evaluation Studies," pp. 9-10, in Preschool Programs for the Disadvantaged, J. C. Stanley, ed. (The Johns Hopkins University Press, Baltimore, Maryland, 1972).

5. White et al., op. cit., Vols, 1-3; Stearns, op. cit.; Bereiter, op. cit.

6. Bereiter, op. cit., pp. 12-16.

7. Stearns, op. cit., p. 26.

8. White et al., op. cit., Vol, 2, p. 109.

9. Bronfenbrenner, op. cit., p. 19.

10. White et al., op. cit., Vol 2, p. 109.

11. Stearns, op. cit., p. 144.

12. White et al., op. cit., Vol. 2, p. 186.

13. Bronfenbrenner, op. cit., p. 14.

14. White et al., op. cit., Vol. 2, pp. 290ff.

15. Ibid., p. 200.

16. Bronfenbrenner, op. cit., p. 18.

17. White et al., op. cit., p. 109.

18. R. Heber et al., "December 1972--Progress Report," p. 49, Rehabilitation Research and Training Center in Mental Retardation, University of Wisconsin, Madison, Wisconsin (1972).

19. Bronfenbrenner, op. cit., p. 28.

20. Ibid., p. 37.

21. White et al., op. cit., Vol. 3, p. 2.

BIBLIOGRAPHY

Bank of America, "Proprietary Day Care," in Small Business Reporter, Vol. 2, No. 8 (1973).

Bereiter, C., "An Academic Preschool for Disadvantaged Children: Conclusions from Evaluation Studies," in Preschool Programs for the Disadvantaged, J. C. Stanley, ed. (The Johns Hopkins University Press, Baltimore, Maryland 1972).

Bissell, J. S., "The Cognitive Effects of Pre-School Programs for Disadvantaged Children," doctoral dissertation, School of Education, Harvard University, Cambridge, Massachusetts (1970).

Bronfenbrenner, U., "A Report of Longitudinal Evaluation of Pre-School Programs," U.S. Department of Health, Education, and Welfare, Office of Human Development (1974).

Camil Associates, "Evaluation of Supportive Services Provided for Participants of Manpower Programs," prepared for U.S. Department of Labor, Manpower Administration, Philadelphia, Pennsylvania (1972).

Congressional Record, pp. H707-H711 (9 February 1970).

Elliott, J. R., Jr., "The Children's Hour," in Barron's (July 5, 1971).

"Federal Interagency Day Care Requirements," Code of Federal Regulations, Title 45, Subtitle A.

Harris, Louis, and Associates, "A Survey of Women on Their Role in American Society,"(Louis Harris and Associates, New York, 1970).

Heber, R., et al., "December 1972--Progress Report," Rehabilitation Research and Training Center in Mental Retardation, University of Wisconsin, Madison, Wisconsin (1972).

Levinson, E., "Waiting for the Ship to Come In: Performance and Prospects of Federal Childcare Policy," speech prepared for American Educational Research Association (16 April 1974).

Lewis, V., "Day Care: Needs, Costs, Benefits, Alternatives," in Studies in Public Welfare, Paper No. 7, prepared for the Subcommittee on Fiscal Policy of the Joint Economic Committee, Congress of the United States (U.S. Government Printing Office, Washington, D.C. 2 July 1973).

Low, S., and P. G. Spindler, "Child Care Arrangements of Working Mothers in the United States," U.S. Department of Health, Education, and Welfare, Children's Bureau, (U.S. Government Printing Office, Washington, D.C. 1968).

Prosser, W. R., "Day Care in the Seventies--Some Thoughts," Pamphlet 3250-5, Office of Economic Opportunity, (May 1972).

Rivlin, A. M., "Child Care," in Setting National Priorities: The 1973 Budget, C. L. Schultze et al., eds., pp. 252f., The Brookings Institution, Washington, D.C. (1972).

Rosenberg, M. E., "Early Childhood Education: Perspectives on the Federal Aid Office of Education Roles," Educational Policy Research Center, Stanford Research Institute, Menlo Park, California (July 1972).

Rowe, M. P., "Economics of Child Care," hearings on S. 2003 before Committee on Finance, United States Senate, 92nd Congress, 1st Session, 22-24 September 1971.

Shortlidge, R. L., Jr., in C. L. Jusenius and R. L. Shortlidge, Jr., "Dual Careers: A Longitudinal Study of Labor Market Experience of Women," Vol. 3, Center for Human Resource Research, The Ohio State University, Columbus, Ohio (1975).

State of Vermont, Family Assistance Planning Unit and Mathematica, Inc., "Planning Papers," State of Vermont Family Assistance Plan V, Princeton, New Jersey (1972).

Stearns, M. S., "Report on Preschool Programs: The Effects of Pre-School Programs on Disadvantaged Children and Their Families," U.S. Department of Health, Education, and Welfare, Office of Child Development (U.S. Government Printing Office, Washington, D.C. 1971).

Social Security Amendments, 1971, Hearings on 27, 29 July and 2, 3 August 1971.

Westinghouse Learning Corporation and Westat Research Inc., "Day Care Survey--1970," Office of Economic Opportunity, Evaluation Division (U.S. Government Printing Office, Washington, D.C. 1971).

Westinghouse Learning Corporation, The Impact of Head Start, Vols. 1 and 2, Ohio University (1969).

White, S. H., et al., Federal Programs for Young Children: Review and Recommendations, Vols. 1-3, The Huron Institute, Cambridge, Massachusetts (1972).

Young, D. and R. Nelson, Public Policy for Daycare of Young Children (D. C. Heath Company, Lexington, Massachusetts, 1973).

U.S. Bureau of the Census, "Projections of the Population of the United States by Age and Sex: 1972 to 2020," Current Population Report, Series P-25, No. 493 (U.S. Government Printing Office, Washington, D.C. 1972).

U.S. Department of Commerce, Social and Economic Statistics Administration, "Population Estimates and Projects," Series P-25, No. 521 (U.S. Government Printing Office, Washington, D.C., May 1974).

U.S. Department of Labor, Women's Bureau, "Working Mothers and the Need for Child Care Services," (U.S. Government Printing Office, Washington, D.C., September 1968).

U.S. Department of Labor, Wage and Labor Standards Administration, Women's Bureau, "Facts About Day Care" (U.S. Government Printing Office, Washington, D.C. October 1969).

U.S. Department of Labor, Women's Bureau, "Twenty Facts on Women Workers," (U.S. Government Printing Office, Washington, D.C., June 1974).

U.S. Department of the Treasury, Internal Revenue Service, "Child Care and Disabled Dependent Care," Publication No. 503 (U.S. Government Printing Office, Washington, D.C. 1973).

U.S. Senate Committee on Finance, 92nd Congress, 1st Session, "Child Care Data and Materials, June 16, 1971" (U.S. Government Printing Office, Washington, D.C., 1971).

U.S. Senate Committee on Finance, Child Care Data and Materials, October 2, 1974 (U.S. Government Printing Office, Washington, D.C., 1974).